THE GRAMMARIAN

The Halifax Grammar School

David Black

THE GRAMMARIAN

Presented by the Students

of

HALIFAX GRAMMAR SCHOOL

HALIFAX, NOVA SCOTIA

JUNE 1, 1965

David Black

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THE HEADMASTER'S PAGE

It has been a dreary day, foggy and cold, and not at all the type of weather that is expected in the middle of May. However, the dreariness seems to have disappeared during the last hour as I read proofs of this edition of The Grammarian. The Grammarian 1965 is certainly the most exciting magazine we have produced, and my congratulations go to the editorial staff and all those who have made contributions.

We have had an exciting year as we moved into new areas of academic study. For me, the development of the laboratory into a real working unit, and the enthusiasm of the science club have been quite dramatic. The introduction of the new mathematics courses in the Senior School, and the marked improvement in the Junior School French course have been indications of the continued development of the school. My greatest pleasure came from the very clear evidence of the students' interest in their studies and their willingness to work. This is what The Halifax Grammar School stands for, and it is heartening to realize that we are moving steadily closer to the achievement of our aims. The Grammarian is evidence of our progress and growth.

My sincere thanks go to everyone concerned with this publication.

J. Russell McNeill
Headmaster.

THE JUNIOR SCHOOL

Print by
Daniel Sangster, Form 3
Age 14

HALLOWE'EN

Here are some black cats. I'm scared of the witches with their brooms. See the skeletons trying to scare us!

Henry Rojo,
Form F
Age 6.

THE SQUIRREL

The squirrel's a jolly fellow
With a beautiful reddish coat.
He hibernates in winter,
And in summer time he's out.

Autumn is the time
When he goes and gathers nuts.
He runs around, gathering busily,
To fill all his huts.

In winter time he sleeps so soundly
While there's not a stir
But then he's finally up in spring
And brushing out his fur.

Paul Trapnell,
Borm B
Age 10.

MY STRANGE HOBBY

My strange hobby is skull collecting and preparing. At least, I think it is an unusual hobby.

Three years ago my mother went to work at the Museum of Science, and I started to visit the museum regularly. I became very interested in biology, the animals, and the exhibits.

Two years later, Gary Rhindress, a friend on the staff of the museum gave me a squirrel skeleton, prepared. I put the squirrel together and became interested in this part of science. Later, on a hike, I found a raccoon skull. When we returned to the museum, Gary gave me a paper which told me how to prepare my own skulls. After that Gary let me do my own skulls at the museum.

To prepare a skull, you remove the fur with a sharp scalpel and clean out the inside of the skull with a brain hook. The skull is now placed in a gallon of water to which $\frac{1}{2}$ cup of household ammonia has been added. It is allowed to soak for two or three days. Next the skull is boiled for at least half an hour in a solution of two gallons of water and a handful of ordinary washing soda. When the flesh on top of the head shows a tendency to separate from the cranium, the skull has cooked enough.

The skull should be cooled gradually to avoid cracking the teeth or beak. This can be done best by allowing fresh water to run into the cooking solution. After the skull is completely cooled, the remaining flesh must be removed with a small scalpel or special bone scraper.

Gently pull down the lower mandible (jaw) as far as it will go; then it can be separated from the skull without breaking the union of the rami. It is not necessary to remove every particle of flesh at this stage, because the final scrubbing accomplishes this more easily.

Next tie the lower mandible to the skull and place in a strong ammonia bath -- one cupful of household ammonia to two gallons of water. Allow the skull to remain in this solution from two to six days. If commercial hydrogen peroxide is available, add a cup of this to the ammonia solution and a better bleaching will be obtained. At the end of the bleaching period, the skull should be washed in sodium hypochlorite. If this is not available, javelle water may be used. Javelle water is made by mixing one can of chlorinated lime, an equal amount of washing soda, and one gallon of water. Javelle water is used hot; sodium hypochlorite is used cold.

Place a rubber glove on the left hand, and hold the skull over the dish containing the solution. Now dip a long-handled brush in the solution and scrub the skull vigorously. All surfaces must be scrubbed clean of flesh. Be sure none of this solution is splashed on bare skin or clothing as it has a burning action.

Further steps in the final preparation of a skull involve some very dangerous chemicals. I suggest, therefore, if any one becomes interested in this subject, he go to the Museum of Science for expert instruction.

Don't you think this is a rather unusual hobby?

Eric Myhre,
Form A
Age 12.

THE BENGAL LANCERS

I am a Bengal Lancer. I ride a horse named Lady Bug and another named Mischief. I fell off a horse two times. We trot on the horse and there is a girl or boy walking beside us just in case the horse gets scared and jumps around. There is a lady in the middle of the ring and she is our teacher. We have fun on the horse. There are boys who march around near the ring and sometimes they scare my horse that I ride and he jumps around. Once there was a boy holding the horse very loose and those boys were marching and the horse got away and went all the way to the other field and then he stared. Some people say that he wants to march with them.

Robert Quigley
Form E
Age 7.

SAILING

My favorite hobby is sailing, and it is an especially good thing to be able to do here, because the Nova Scotia coastline has some of the best sailing areas in the world. People come from very far away to sail in Cape Breton and Mahone Bay.

Some of the things I like best about sailing are the excitement and the feeling of independence that you get when you are skipper in a race. On the other hand, there is that nice, peaceful feeling when you are just drifting along. Another feeling that is special about sailing is when you are cruising and you sail into an empty little bay, just like a real explorer.

Sailing teaches you to be quick and alert, to love the out-of-doors, and to be a good sport.

Allan Finley,
Form A
Age 10.

THE BACKWARDS LAND

There is a backwards land far off in the sky. The children there are the parents and the parents are the children. The teachers are the pupils and the pupils are the teachers. A rich man is a tramp and a tramp is a rich man. The sun is the moon and the moon is the sun. The hard sums are one and one. The boys skip; the women play football. When it rains, it is a good day. When it is sunny, it is a bad day. When the trees are cold, they move to a warm spot. The birds feed the people. Christmas is in January, and New Year's is in December. I wish I could go to backwards land.

Jeffrey Neal,
Form D
Age 8.

AN ANIMAL

I am a catdogfrenchpoodle. I have small, floppy ears. My fur is soft and long and I have little circles of long soft fur. I like mice, fish, dogfood, catfood, sardines, milk, and water. I like playing ball, catch, and many others. I like getting tangled up in a string. I like running, jumping, walking, and frisking about. I am a boygirlmanwomanmenwomen. My religion is jewishchristianmohammedanism. I come from Irelanddutchlandenglandcanadaromegreecenewyorkconstantinoplevenice. My name is Harrylarryericajohnbettyelizabethmary.

Erica Glube,
Form C
Age 8.

PHOTOGRAPHY IS MY HOBBY

Getting prints of pictures I take is my hobby. The first thing in developing is to get a roll of pictures taken and wind it onto a reel. The reel is then placed in a jar. This has to be done in a dark room. The three liquids used in developing are the developer, stop bath, and fixer. The developer is poured into the jar. Then after ten minutes, it is dumped out, and the film is rinsed; then the stop bath goes in for five seconds. Then the jar is rinsed again, and the fix goes in for twenty minutes. After rinsing, the film is hung up to dry. While in the jar, the developer, stop bath, and fixer have to be stirred thoroughly, so the chemicals will get on all the film. This is done by turning an agitator in the top of the jar. The baths have to be at a temperature of sixty-eight degrees.

After the film is dry, negatives stand out. Negatives have the blacks and whites reversed. In the printing process the negatives are cut, so they can be handled separately. The negative is placed in the printing box. This has a black layer at the front that is cut to fit the negative. The negative is put in that space. Then a piece of photographic paper is placed just behind the negative. The back of the printing box is put in and is then exposed to light for fifteen seconds. Then the photographic paper is put in developer for ten minutes. While in the developer, black lines will begin to appear on the photographic paper, because the picture is developing. After ten minutes. the picture is placed in the stop bath, which stops the developing process from going on too long. The print is kept in the stop bath for thirty seconds and then put into the fix. It stays there for twenty minutes. The fix is a chemical which maintains the stopping of the developing process. Then the print should be kept in water for an hour and set out to dry. Then you have a finished picture.

David Wainwright,
Form B
Age 10.

IF I WAS A SNOW FLAKE

If I was a snow flake, I would go a-flying with some other snow flakes. We would have lots of fun. When the sun came out, we would be very sad. When more snow came, we would not be as sad. When we saw the children playing in the snow, we would be so happy on our way down.

Robert Saylor,
Form E
Age 7.

THE SNOW

The snow comes in winter. We like to make snowmen and forts and igloos.

Christopher Morrow,
Form F
Age 7.

IF IF WAS A SEED

If I was a seed, I would be an acorn way up on the top branch of the tallest tree in the world.

Once there was a great big storm. The wind was blowing very hard and it was raining, lightening, and thundering all at the same time. I was blown off the branch on which I was grown. Then I fell down, down, down.

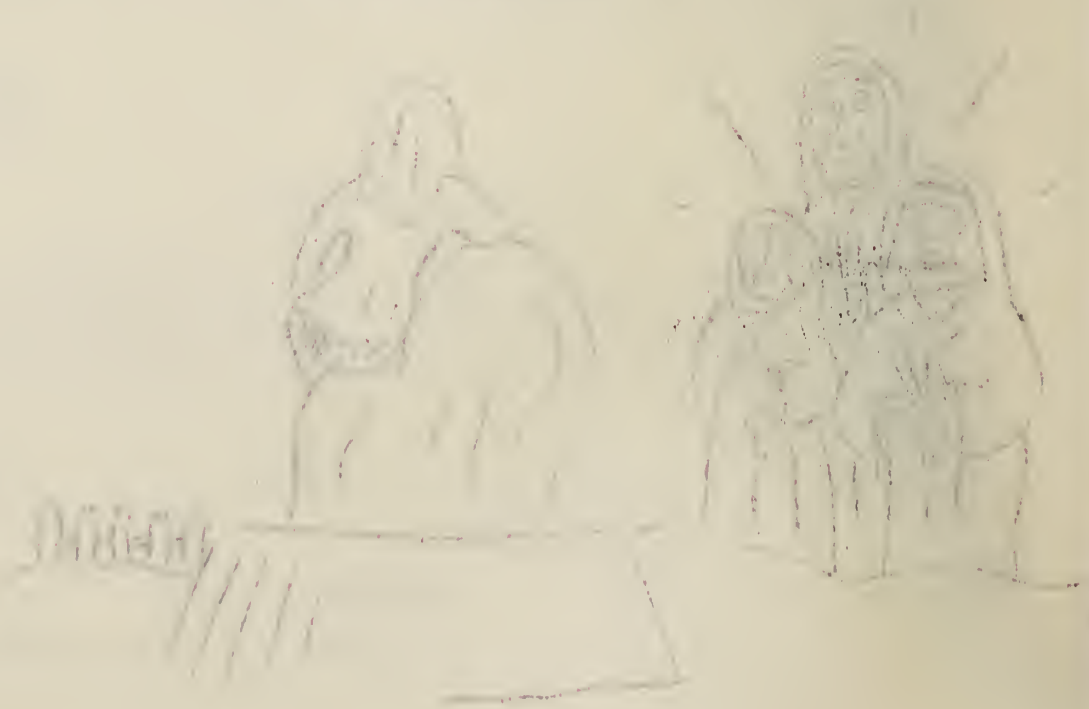
As I fell, I was blown farther and farther away from the tree. I could see that I had blown across two rivers and seven miles of forestland, and I was not anywhere near the ground. I kept falling and blowing for three weeks and three days. Once in a while I could see the ground through little breaks in the clouds. Once I even saw some other seeds go sailing by me. Finally the wind stopped and I drifted down under thd clouds. When it cleared up, I found I was over Paris. Then some wind came up and blew me back up into the clouds.

I finally drifted to earth for good in China. It started to snow, and I rolled into a little hole and went to sleep. When I woke up, I was a full-grown tree.

David Saylor,
Form C
Age 9.

Cartoon caption:

My, Sisters! Aren't those students creative!
(Commemorating an actual, heart-warming
incident during the snow-sculpture contest.)



THE BEST EASTER EGG IN THE WORLD

I was a poor little boy that lived in the middle of nowhere. At least, to me it was the middle of nowhere, for I lived in a hospital and was very sick. I had a private room. One day I was sitting in bed watching street cars go by and wishing I was at home getting ready for Easter, for Easter was getting near. Then and there I sat up in surprise and stared! For I saw a huge bunny hopping into the hospital. He was at least five feet tall. He hopped right into my room. I was so astonished I could do nothing but sit up and stare. Then the bunny spoke.

"Would you like the best Easter Egg in the world?"

I had recovered from my astonishment.

"Yes," I said.

"Abra-cadabra," said the bunny, and a huge Easter Egg appeared. It was at least ten feet tall. It was pure chocolate with candy inside. I could say nothing.

Robert Hirsch,
Form C
Age 9.

SPRING

Flowers grow in spring. In spring it is starting to get warm. Birds build their nests.

Jan Havlovic,
Form F
Age 6.

THOUGHTS OF A HIGH SCHOOL PITCHER

I am the pitcher;
I stand on the mound.
There is the batter;
His clock is wound.
Should I pitch him a high one?
A low one?
A fast one?
A slow one?
There's got to be a hero,
In the field or at the gym;
There's got to be!
It's either me or him.
Vip! Whop! Boo! Yay!
Sigh. It's him.

John Gray
Form A
Age 12.

THE JUNIOR CHOIR
Forms A, B, and C – Ages 8–12

FORM B'S PUPPET THEATRE
Left to right , each holding the puppet he made: Ike Stoddard, Ian Treherne, Alan Sidorov, and Kent Roulston.

PAUL

Paul was a little boy. One morning Paul was sitting on his door step wondering what he could do. He thought of playing cowboys and Indians, but there was no one to play with.

"I can take a walk. I don't need anyone to take me, because I walk to school every day all by myself." So he went.

Paul passed a meat store and a candy store and he passed Tom's house and Mary's house and then he turned the corner and walked down the street.

Now he was tired of walking and decided he wanted to go home, but he could not remember passing a grocery store. Now Paul realized what had happened. He was lost. He almost started to cry, but he did not because he was six years old. He walked across the street. He saw a policeman. His mother told him they helped you when you are in trouble.

He went up to him and said, "I am lost."

So the policeman took him home.

Johan Koppernaes,
Form D
Age 8.

CHRISTMAS

Christmas is fun. I like Santa Claus and I like the snow. Santa Claus brings toys.

Tony Baylis,
Form F
Age 6.

FUN AT THE BEACH

It was the last day of school and I was very happy. Finally we got out of school. My brother and I hurried home on our bicycles. When we got home, we started putting everything that we needed in the trunk, because the next day we were going to our cottage. It was a sunny day, and it was a long drive to get to our cottage. At last we were there. We hurried in and got our bathing suits on, and we put our clothes on over them. Then we hurried down to the beach. We took off our clothes and ran right into the water. We had so much fun that we forgot what time it was and when we got out it was almost seven o'clock.

Marcus Burnstein
Form C
Age 9.

FORM B's WHITE MICE

On March 9th Tony Gillis brought a female mouse and Paul Cochrane brought a male mouse to school. David Morse brought his empty snake cage to put them in. We put some newspapers in before we put the mice in.

Then on March 29th we found some baby mice about half-an-inch long. They sucked the milk from their mother. It wasn't easy to count the mice at the beginning, because they were under the newspaper in a heap. We finally counted eight baby mice.

We fed them bread soaked with milk about once a day. We have to clean the cage out once in three days or it really smells. They rip up all the newspaper for warmth.

The mice in the beginning looked horrible without fur, just skin. About four days later they began to grow fur, and two weeks after that they became active for the first time.

On May 1st (Open House) some of us were allowed to take home a baby mouse. I took one home. I keep him in an old aquarium. He is hard to keep inside, because he chewed through a screen, through a careboard box, and now I have four-ply board on top, and he has almost chewed through that, too. He climbs up his screen, jumps onto a board, and climbs up a string. He makes his bed out of newspapers. He crawls under the newspaper and rips it up until he has a warm bed. He prefers to sleep in the dark.

Christopher von Maltzahn,
Form B
Age 10.

SNOW FLAKES

Here come the snow flakes,
Whirling through the air,
Falling light and heavy,
Without a single care.

Some are big and some are small,
Falling here and there;
Yet all of them will have to go
And melt with the warming air.

Paul Trapnell,
Form B
Age 10.

WUFFER'S ADVENTURE

Wuffer was a little dog one year old. He lived on a farm. His dog house was a most unusual one. It had a grass-covered roof.

The swimming pool was underground. He could swim across to a secret stairway to his master's house.

Wuffer liked to dig tunnels. One day, when he was digging a new tunnel, he found a box. The box had a message taped on it that said, "Climb the oak tree beside the dog house. You will find a skeleton key on the fifth branch. The key will open this box.

Dogs have a hard time climbing trees, but this dog leaped from branch to branch. He found the key easily. He hurried back to the box. He was very excited. But he could not open the box.

"I will have to get my master," he said.

He took the box to his dog house. He carried it while he swam across the pool. He carried it up the secret stairway and barked for his master.

"What do you have there, Wuffer?" asked his Master.

"Wuff! Wuff!" said Wuffer. "I found a box. I can't open it."

"Here, I will help you," said his master.

When they opened the box, they found some gold coins, silver coins, and copper coins. They found some jewels, too.

The Master said, "Why, Wuffer, you have found Captain Kidd's Treasure!"

Wuffer and his master lived happily ever after. The treasure was worth lots of money.

Fred Stoddard,
Form D
Age 7.

FORM A's JOKES

The jokes they play
(That is, Form A)
Are many a day.

Although a few are in good taste,
The rest are surely quite a waste!

On April 1st
They play the worst
And then, oh dear,
The teacher bursts!

The moral is:
DO NOT play jokes,
That won't be liked
By most good folks.

David Hirsch,
Form A
Age 9.

MY HOBBY

One day last summer I was visiting my uncle at his farm, and as were walking in the fields, I saw a snake which I caught and took home. My father built me a cage for it. During the summer I found three other varieties. I had a Garter Snake, a Smooth Green Snake, a Red Belly Snake, and a Ring-Neck Snake. These are all natives of Nova Scotia, and they are harmless. I found my snake collection an interesting hobby, because I have seen them do different things.

A snake is a reptile without legs. They move with their ribs. Tiny muscles pull the ribs back and forth which move their scales back and forth. The scales catch on to the rough places on wood or earth, or any thing else they may be on. All snakes can swim. Their eyes are always open, as they have no eyelids.

They eat other animals such as toads, worms, insects, spiders, mice, and rats. They can eat toads and frogs bigger than their heads, because their jaws are hinged with ligaments, and the bone is hinged freely.

They do not bite with their forked tongues as some people think they do. Some snakes are poisonous, but not the ones in Nova Scotia. Snakes shed their skins from time to time. Most snakes lay eggs, but some have their babies alive. I had a snake lay eggs which hatched out, but I let the babies to as they are hard to feed.

When cold weather comes, snakes hibernate. I let some of my snakes go, but I kept one. I kept the Ring Neck and put him in a bottle in the refrigerator for six months. We could tell he was alive by checking the pulse in his throat. As soon as I was able to get food for him this spring, I woke him. He had wintered well -- a little thin but alive. He attended The Halifax Grammar School Open House.

Daryl Tingley,
Form A
Age 11.

FIREWORKS ON SHOW

Fireworks light up the snow
Like some soft fairy set a-glow.
They light up wood and field
And nothing to the sky they yield.
Far up to the sky they go,
Still lighting up the fields of snow.

Ike Stoddard,
Form B
Age 9.

SCHOOLS

Some people think schools
Are full of rules.
Well, so they are;
It helps them go far!

It's a pity that the classes
Are not filled with pretty lasses.
I'm sure if they were,
We could forget to say "Sir".

Some who are smart
Are very good in art.
I'm not good in French
And can't even use a wrench.

Some people find history
Is quite a mystery.
If you stay on the right path,
You'll succeed in your math.

When you're making a map,
You can't ever nap.
One enjoyable fact:
We sometimes act.

Michael Monahan
Form A
Age 10.

DAYS OF THE WEEK

On Monday we went to church
The minister's name was Burch W. Tree.

On Tuesday we saw a bear
Carrying a forty-foot hare.

On Wednesday we went to school
But I wonder why there were so many fish.

On Thursday we hunted ostriches in Alaska.

On Friday we fried the eggs we got from the ostriches in Alaska.

On Saturday we sat and watched superman jump in the garden.

On Sunday we turned out the sun and cooked a bun.

Kevin Brown,
Form D
Age 8.

THE SENIOR SCHOOL

Print by
Leslie Nash, Form 4
Age 15

THE GRAMMARIAN STAFF

Ian Slayter	Editor-in-Chief
Drew Bethune	Literary Editor
Alan Chaddock	Art Editor
Jamie Kitchen	Sports Editor
John Roberts	Assistant Sports Editor
John Ross	Student Activities Editor
Leslie Nash	Form Reports Editor
Philip Foster	Form Reporter, Form 1
William Burton	Form Reporter, Form 2
Michael Rowan-Legg	" " , Form 3
Alan Spafford	" " , Form 4
Stephen Greening	" " , Form 5
Peter Birdsall	" " , Form 6
Michael Monahan	Reporter, Junior School
David Hirsch	" " "
Ralph Petley-Jones	" " "
Stephen Greening	School Diary
Daniel Scouler	Publicity
Chris Curtis	Assistant Publicity
James Karr	Staff Advisor

COVER DESIGN

Alan Chaddock and Richard Padmore

THE GRAMMARIAN STAFF

Front, left to right: D. Hirsch, R. Petley-Jones, S. Greening, I. Slayter, A. Chaddock, N. Nash, M. Monahan.
Rear, left to right: J. Kitchen, D. Scouler, D. Bethune, C. Curtis, J. Ross.

THE STUDENT COUNCIL

Front, left to right: J. Steeves, T. Ross, N. Holmes, D. Connor, G. Steeves.
Rear, left to right: J. Ross, I. Slayter, C. Curtis, D. Scouler.

THE STUDENT COUNCIL

The Student Council of The Halifax Grammar School for 1964-1965 moved considerably ahead of its predecessors in activities and accomplishments.

Student Council elections took place early in October, and the first meeting of the year wss held on October 7th with John Dawson as president, Gordon Steeves as vice-president, Dan Scouler ad treasurer, and Chris Curtis as secretary. Jamie Steeves represented Form 1, Denis Connor Form 2, Ted Ross Form 3, John Ross Form 4, Nick Holmes Form 5, and Dave MacLellan Form 6.

In December a Dance Committee and a Publicity Committee were formed, and the council sponsored a Christmas dance which was enthusiastically supported by the student body.

After the Christmas holidays, John Dawson resigned his position as president because of academic pressure, and Nicholas Holmes was elected to succeed him. John MacLachlan was then elected to serve as the representative for Forms 5 and 6.

During the Winter Term a Fudge Sale and a raffle were conducted to raise money to buy goalie gloves for the hockey teams.

In March Ian Slayter was added to the council as the editor of The Grammarian, and the council voted twenty dollars to the United Nations Model Assembly. Also at this time, plans were made for an Easter dance. Under the direction of the Student Activities Committee, this affair was even more successful than the dance at Christmas, for it was attended by a large and enthusiastic group of students and guests.

On the whole,this was a very successful and productive year for the Student Council. With this year's good experience on which to build, next year's Student Council should develop into a truly constructive organization.

John Ross,
Form 4.

THE BEE

The bee is taken as just a bee by most individuals, but like us they have their own separate responsibilities in and out of the hive. They are of three types; the queen, the drone, and the worker.

No matter how common honey bees are, they are not native to Nova Scotia or the New World. They were successfully introduced by the pioneers in the seventeenth century.

This drawing of a worker bee shows the details of this insect's efficient body. The blunt, triangular head (1) has three simple eyes, one of which is visible on the forehead (2); the other two are compound eyes (3) on the sides of the head. The antennae (4) are divided into twelve segments and govern the bee's senses of smell and touch. Mandibles (5) crush and shape wax for comb building, and, curling back under the head is the proboscis (6) used for sipping honey, nectar, and water. The antennae are drawn through grooves in the front legs (7) to clean them. The long spines on the middle legs (8) remove wax from certain glands. Each foot has prolonged claws (9) for clinging to flowers. A barbed sting (10) protrudes from the abdomen, and wax scales (11) are secreted along the body's rear segments. The pollen basket (12) on the rear leg is full of pollen or nectar. The two separate sections of the wings are joined by marginal hooks (13) when the bee is ready for flight.

Nature provides the bees with two kinds of food: pollen and nectar.

Pollen is the only source of protein for the bees and is needed mainly for feeding the brood. Because of the mid-winter beginning in brood rearing, pollen reserves from the previous year will be depleted. The size of the brood in the spring varies directly with the amount of pollen intake at that time.

Honey is an equally important crop. It is estimated that a colony needs about two hundred pounds of honey and sixty pounds of pollen for brood rearing and other activity in a year.

A bee may make ten or more trips in a day and on each trip it may visit upwards of one hundred blossoms to get a load of nectar, pollen, or both on the same trip.

COLONY POPULATION BEES	HONEY PRODUCTION POUNDS	
	Per Colony	Per 1000 Bees
15,000	15 pounds	1.00
30,000	40.5 pounds	1.35
45,000	65 pounds	1.45
60,000	91 pounds	1.52

THE QUEEN

The Queen bee is the mother of all the bees of the colony. She is unable to live alone and must constantly be fed and attended by worker bees. Her sole function in the hive and in life is egg-laying.

A queen cell is different from the others. It resembles a peanut in shape and is always pointing downward. It is usually dismantled after the queen has emerged.

There is normally only one queen to a colony and the well-being of a colony depends upon maintaining this condition. Her usual life expectancy is only a year or two although occasionally a queen will live up to five or six years. When the queen gets old, the colony will replace her. While she is still present, they will start to raise one to four new queens and one of these will replace the mother. This usually takes place without the colony issuing a swarm.

The presence of a queen is known to all members of the colony by means of the secretion of a substance. If the queen is missed, the substance is no longer produced.

A colony which loses its queen is incapable of replacing it unless young eggs or larva are present in the hive. For all practical purposes such a worker colony is doomed.

For the first thirty-six hours, the larva is only fed royal jelly; then for a worker the diet is changed. If, however they want to produce a queen, they feed it exclusively Royal Jelly.

A worker is fed a leaned diet consisting of pollen mixed with diluted honey. As soon as it is fed a leaned diet, changes take place that prevent it from being a queen bee.

The egg is fertilized according to its diet.

	QUEEN	WORKER	DRONE
Egg Hatches	3rd day	3rd day	3rd day
Cell is capped	8th day	8th day	10th day
Adult Emerges	16th day	21st day	24th day

The bees keep a constant temperature of about ninety-five degrees in the hive during the time when the brood is in the hive and during the winter they keep the temperature at about fifty degrees. If they wanted to cool the hive, they would use water and fan it with their wings.

In a wintering colony the queen starts egg laying shortly after mid-winter in the center of the winter cluster. A rate of one thousand eggs per day may be reached in early May. A good queen can be expected to lay one thousand five hundred eggs daily and some may exceed three thousand eggs daily for a short period.

The egg hatches about three days after it is laid. In the next few days the larvae will receive about twelve thousand meals daily. The larva completes its growth in six to eight days. Then the worker closes the cell with a pollen-wax mixture.

All the various duties of the colony are performed by the worker bees. The worker has undeveloped sex organs, but it has the proper tools for its other tasks. They have instruments such as glands for secreting Royal Jelly, wax glands, brushes and baskets for gathering pollen, honey sac, etc. Each of these organs is used during a different period of the worker's life.

Each worker bee lives from six to seven weeks in summer and six to seven months in winter. It also has to perform various duties in succession. First, as a young bee it cleans and polishes the empty brood cells for a new cycle of brood; a few days later the bee starts feeding old larvae with a pollen and honey mixture; three or four days later when the Royal Jelly glands begin to produce, it will become a wet nurse, feeding the youngest larvae; at the age of twelve days the wax glands become fully developed. At this stage the bee becomes a comb builder. Then the same bee will busy itself with converting the incoming nectar to honey. The last stage of its indoor duties is as a guard at the entrance of the hive.

By two or three weeks, the worker becomes a field bee and will devote the rest of his life to gathering nectar and pollen, and occasionally water as required.

An individual bee toils for the benefit of the whole hive. A bee lacks the ability to reason. It acts on instinct and the needs of the colony at any given time. The ratio of house bees to field bees is usually four to one during the summer or rapid growth periods, but as the colony approaches the population peak, it is often nearer a two to one ratio.

The drone has only one purpose in life, the fertilizing of the queen. This bee is otherwise relatively useless. It has to be fed by the workers all its life because its tongue is too short for practical use. During the summer there are always drones in the average hive. The workers will work better when drones are present. But during the fall the workers dispose of the drones because they are a burden in the hive and would have to be fed all winter.

As the size of a colony increases, the tendency to make swarm preparations also grows. Swarming is a natural tendency for a colony of bees to divide, under conditions favorable to both the colony and the swarm. The swarm usually takes place during the time when the colony has reached its prime in brood-rearing. It usually occurs during the summer and sometimes in the autumn. Swarming is stimulated by the crowding of the brood in the brood-chamber or the crowding of the bees and store.

In preparation to the swarm act, a number of queen cells are constructed. As the eggs hatch and the queen larvae grow, the colony gradually develops the swarming fever; field activity slackens, and the idle workers may form a large cluster on the outside of the hive.

The swarm will settle after a brief period in the air not far from the parent hive and form a cluster. The swarm consists of the old queen and half the hive workers. Such a swarm will stay clustered for several hours and sometimes a day or two while the scouting bees are in search of a suitable abode.

Henry Hicks,
Form 4
Age 16.

הגליל

בקיץ שעבר אמי ואני נסענו לישראל לשבועות אחדים. אהבתי את כל המקומות שבקרתי באותה מדה אבל המקום היפה ביותר היה הגליל.

הגליל הוא בצפון של ישראל. בגליל יש גבעות ועצים יפים וירוקים.

כאשר הייתי שם, עברתי דרך קיטנה יפה זו לטבריה.

בבקר הבא נסעתי דרך ים הכנרת בסירה קטנה לכפרנחום איפה שראיתי בית כנסת ישן מאד.

החזיון של הקיטנה מסביב לים הכנרת הוא נמנע התאור - הירוק כל כך ירוק והתכלת כל כך תכלת. הפאר שלו יחיד במינו.

בגליל בקרתי בקבוצים חדשים- מין משק משותף. שם אחד היה דגניה (הראשון בישראל) ועוד אילת השחר.

יכלתי תמיד לנסוע לישראל. לפיכך הייתי מאוכזב לעזיב, אבל אני מבטיח לשוב בעתיד הקרוב ביותר.

Galilee

Last summer my mother and I went to Israel for several weeks. I liked every place we went to, but the most beautiful spot, I thought, was Galilee.

Galilee is in the north of Israel. It has hills and beautiful green trees. When I was there, we went through this beautiful countryside to Tiberias.

The next morning I went across the Sea of Galilee in a small boat to Capernaum where I saw a very old synagogue.

The view of the countryside around the Sea of Galilee is indescribable -- the green is so green, and the blue is so blue. Its beauty is unsurpassed.

I then went to several kibbutzim (pl.) -- a sort of voluntary collective farm. One was called Degamia (the oldest one in Israel); another was called Ha-Yelet Ha-Shachar.

I always hoped to go to Israel, so I was sorry to leave, but I promise to return as soon as possible.

Bernard Newman,
Form 2
(Age 14)

[illegible]

[illegible]

[illegible]

THE APE IN THE NIGHTMARE

Carl Wagner was a freelance writer who never came up with any literary sensation but made enough to keep him in a comfortable social position; yet his common, everyday stories would never bring him the sizeable amount of money needed to fulfill his dream of a far-off trip to a secluded hideaway in his native Austria. As much as he wanted it to, he knew his dream would never become reality until..

During the evening of his thirty-fifth birthday, his thoughts again turned to revery and Austria when he became obsessed with a new and stunning idea of a theme for a story he had been working on. Thinking of leaving it until the following morning, he retired to bed without giving it any more thought. Awakening the next morning, he set himself to completing the story which, when he finished, he took down to a nearby publishing company. Handing it to the editor who was a good friend of his, he sat down and waited for an estimate on the value of his story. About an hour and seven cigarettes later, he was summoned to the editor's office where he was told that the content was very good, but that an exact duplicate of it had been sent in the day before. Wagner walked home and, because his high hopes had been miserably crushed, went to bed very early that night and continued doing so for the next couple of weeks. Two weeks after his visit to the publishing firm, another idea suddenly came to him. Spending three days of exceptionally hard work on the story, he again rushed down to the publishing firm, where again he sat down to wait for some sort of opinion by the editor. As he was sitting there, he began thinking of the last time he had brought him material which had already been passed in by someone else the day before. Was it possible for someone to .....?

"Mr. Wagner", announced the unconcerned secretary, "the editor will see you now." "Carl this is the best piece you have ever handed in here, but, you know, this exact same thing was handed in yesterday by someone else. Know anything about it?" "No, only that it is too suspicious to be coincidental. Give me the name of the guy that did this to me!" "Sure", answered the publisher. "It's a Toni Luzio on Willow Grove, and - wait a minute - that's the same guy who sent in that article of yours the last time." Wagner uttered a strong curse and stormed out.

Infuriated by this chain of events, Wagner hurried directly home and barbarically ate his supper. It was dark by the time he reached the Luzio home and knocked three times with no answer. As the door was open, he took the liberty of walking in uninvited. Seeing a light on at the end of the hall, he walked in its direction and opened the door. As he walked in, he heard a heavy voice say,

"Sit down Mr. Wagner, I've been expecting you for some time now." Wagner sat down and was first confronted with the back of an elderly man who turned slowly to face him. A pair of eyes burned into Wagners.

"You thief!" screamed Wagner to his counterpart. "You stole my stories! I don't know how, but I'll find out."

"Yes, Mr. Wagner, what you say is true, but who would believe a man who said that the person who stole your stories did so by reading your dreams, or did you ever realize, Mr. Wagner, how you conceived your ideas." Minutes passed before Wagner could comment.

"You mean you intercepted my dreams?" Precisely. "Now that you know you may leave."

"Not so fast, you swindler. There are a few things I would like to ask you, if you would be so kind. How did you suddenly tune in on me when I finally did something worthwhile?" asked Wagner fumbling for a smoke.

"Easy," replied Luzio, "I knew from your past record that you would someday create something worthwhile and all I did was wait around until you did."

"Well,that is all very nice and scientific, but what are you going to do when this gets dragged through court?"

"Did you ever stop and think whose work was handed in first?" continued Luzio. "And all those doctors could find out about me would be that I am just a clairvoyant and you a poor unfortunate writer, so enough of all this foolishness. Get out before I have the police on you."

"Sure, okay, but I'll be back again."

Wagner spent a restless night thinking of how he had been duped out of a fairly good sum of money by some 'two-bit ape'.Of course, he had heard of this kind of people before, but he had dismissed the idea of it. Yet, here he was, Carl Wagner, actually having to deal with one and under very significant circumstances. He rid his mind of the whole matter as best he could and with an appropriate curse fell into a deep sleep.

The following night Wagner again returned to Willow Grove and, as before, walked in. Only this time he didn't knock. As before, he went towards the dimly lit room at the end of the black hall. Suddenly from behind him he heard a voice command, "Hold it, right where you are, Mr. Wagner. I've been expecting you."

The lights then went on and the voice continued, "Drop that gun you're carrying, and turn around slowly."

"S-s-s-sure, whatever you say, Mr. Luzio." And in one continuous action Wagner wheeled around while pulling out his gun, fired, but missed the mark. But Luzio's aim was true and a small hole appeared over Wagner's heart and a little trickle of blood soiled his shirt.

"How 'ja know?" gasped Wagner.

"Remember my power," replied Luzio. "You should have been more thoughtful when you thought of doing this stupid stunt. He snickered unpleasantly.

"O, my God!" whispered Wagner. " I thought of it in my sleep."

Alan Spafford,
Form 4
Age 15.

HALIBURTON AND SAM SLICK

On December 12, 1796 Honorable William Otis Haliburton and his wife, Lucy Grant, had a son whom they named Thomas Chandler Haliburton. Although Thomas was born in the little, sparsely-populated town of Windsor, Nova Scotia, at a time when Nova Scotia was known to very few people, he died one of the best-known people in all the world. As his father was well-to-do, Thomas was well-educated and introduced early in life to the etiquette of the society in which he was to become prominent. He received his B.A. from King's College and not long afterward followed his father's footsteps by becoming a lawyer. In six years he was elected to the Legislature. A short time later he became Chief Justice of the Court of Common Pleas, and in 1829 he became Chief Justice of the Supreme Court. Fifteen years later he retired to London, England, continuing in politics until his death in 1865.

It would seem that his career was entirely that of politics. It is evident, however, by his title of "The Founder of the American School of Humour", given him by Artemus Ward, that he was much more than a politician. This opinion of Artemus Ward was prompted by Haliburton's famous creation, Sam Slick. Haliburton was also the first writer to use American dialect in literature.

His creation, Sam Slick of Slickville, Onion County, Connecticut, often thought of falsely as Haliburton's pseudonym, was a maker and peddler of inexpensive clocks. Sam used "soft sawder" and "human nature" to drive his shrewd bargains with unsuspecting"Bluenoses". Sam Slick represented the quick-witted New Englanders, but was also bestowed with all the characteristics which Loyalist descendant Haliburton disliked in his American neighbors. The adventures which this vivid character had were written not just as satires on Americans but also on the Squire's, that is, Haliburton's fellow "Bluenoses".

Haliburton gathered the material for his satirical books from the people of the surrounding area. Most of Sam's acquaintances had fictitious names such as Dr. Query, Judge Cotton, The Rev. Ahab Meldrum, or Rev. Joshua Hopewell. Haliburton sometimes used actual people and often made little or no effort to disguise their names. This memory or lack of memory, as the case may be, resulted in the books causing much more laughter abroad in the "States" or "British North America". He did not, however, even benefit from the laughter caused overseas by his writings, for his best-seller, THE CLOCKMAKER, or THE SAYINGS AND DOINGS OF SAM SLICK, was not copyrighted. This made it possible for Richard Bentley to print the book in London, using a different title and another author's name. Haliburton received neither credit nor money for his best creation.

Haliburton, however, did a little pilfering himself. In fact, he was famous for taking straight-laced, wise sayings and, by changing the words to American dialect, converting them into Sam Slick's wise saws. For example, Samuel Butler's "He that complies against his will is of the same opinion still" became "You can stop a man's mouth by crammin' a book down his throat, but you won't convince him". Other authors from whose writing Haliburton"borrowed" frequently are Chaucer, Scott, Dean Swift (especially from "Polite Conversation"), Cowper, Thomas Hood, and Lord Chesterfield (mainly from "Letters").

"On the question of who were the authors of the rhyming "wise saws" which Haliburton now and then presses into service, the authorities play it safe. They (critics) name none. That, however, affords slight grounds for believing that Haliburton was the true begetter of any one of these aphoristic pronouncements of long-standing presumptive appositeness." Such phrases are: "What can't be cured, must be indured" and "Praise to the face is open disgrace".

Haliburton was certainly the inventor of many "wise saws". Many of these, since they certainly still apply, are in common use: "When a man is wrong and won't admit it, he always gets angry"; "A bad man is bad enough, but a bad minister beats the devil"; "The road to the head lies through the heart"; "The spur won't hurt where the hide is thick". Along with his famous expressions are his famous phrases, such as "upper crust", "quick as a wink", and "conniption fit".

Some of the sayings which are obviously his have been credited unjustly to other authors. It is obvious that these authors could not possibly have written these expressions. Two examples of undue credit are: "small potatoes and few in a hill" which was attributed to Rudyard Kipling; yet Haliburton used this expression twice in his books forty years before Kipling appeared as an author. "Life ain't all beer and skittles" was credited to George Du Maurier's TRILBY (1894). The same phrase, verbatim, appears three times on one page in Haliburton's NATURE AND HUMAN NATURE (1855).

The Province of Nova Scotia, in memory to Haliburton and his wife, erected a memorial in Christ Church, Windsor, in 1902. Thirty-seven years later the Province purchased Clifton House, where Haliburton lived, which is now visited by over 20,000 people each year. In this museum, along with many of his possessions, there is a set of over a hundred drawings of incidents in Haliburton's books, drawn by one of Canada's greatest historical artists, Charles William Jefferys. Thomas Chandler Haliburton will never be forgotten; he is numbered among the great authors of the world.

John Steeves,
Form 4
Age 15.

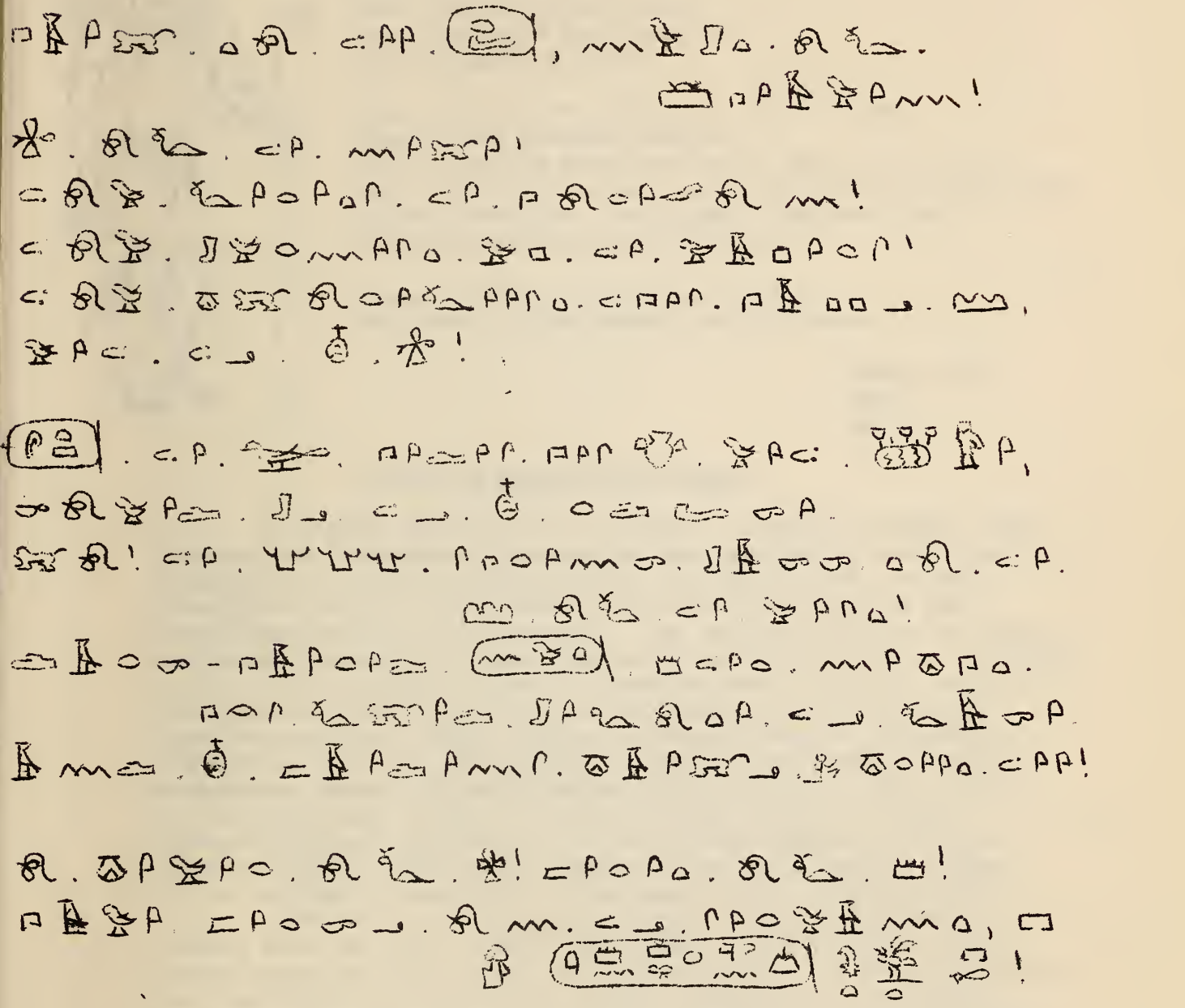
MEIN BOOT

Ich habe ein Boot. Es ist kein gro Bes Schiff, sondern es ist ein Segelboot. Ich bin der Kapitan und ich segele es viel. Mein Segelboot hat einen Mast, zwei Segel, einen Anker, ein Ruder, ein kleinen Kiel, und eine kleine Kabine. Die Farbe des Segelboots ist weib. Die Segel sind auch weib. Es hat einen kleinen Motor. Im Winter habe ich mein Segelboot auf dem Land und im Sommer in dem Wasser. Wenn das Wetter gut ist, segelt es auch gut. Einmal segelte ich es van Halifax nach Lunenburg.

Ian Slayter,
Form 4
Age 15.

HYMN TO THE SUN

(Written in the "alphabet" of the ancient Egyptians)



Translation

Hail to Thee, Ra! Golden one of heaven!
Light of the Nile!
Thou firest the horizon.
Thou burnest up the waters.
Thou glorifieth this happy land
With thy healing light.

Seth, the evil one, hides his head in shame,
Bowed by thy splendid radiance.
Lo! the spirits sink back to the land of the West!
Dark-haired Nut, mother night, has fled before thy face!
All evil has flown from Egypt's beauteous face
And young maidens gaily greet thee.

O giver of life! Beloved of men!
Have mercy on thy servant, poor Ikhnaton.

Leslie Nash
Form 4
Age 15.

A TRIP TO MONTREAL AND OTTAWA

On Sunday, February 28, Mr. McNeill, Douglas Kernaghan, John Steeves, and I arrived at Montreal and were greeted by Mrs. Foster, vice-principal of St. George's School, and her husband. We went directly to La Place Ville Marie, from the top of which we had a magnificent view of the entire city. Mr. and Mrs. Foster then drove us through Montreal via McGill University and Mount Royal to Westmount, a city within a city. We saw St. George's School, which we were to visit during the next two days, and the massive domed church, St. Joseph's Basilica. After a delicious steak dinner at the airport restaurant, where the atmosphere is early "French-Canadian" and the waiters are dressed in the costumes of that period, we were taken to the homes where we were to be entertained during our visit. Ironically enough, Douglas, son of the general manager of Simpson-Sears in Halifax stayed with a member of the Eaton family, owners of the nationwide chain which is the chief rival of Simpsons-Sears.

On Monday we walked to St. George's School and attended classes with our hosts. During the course of the morning, we made notes, comparing St. George's and our own school. We were also given the opportunity to show a movie on the industries of Nova Scotia. At noon we discovered that the school's compulsory lunch program is not pupular with the student body, for they would prefer to go home for lunch.

In the afternoon we went to the home of Mr. Lester, the principal, who is recovering from a recent operation. We had an interesting discussion of the school and Mr. Lester's treatment at the hospital.

That evening, I had a most informative talk with my host, David Brusk, about school yearbooks, taking advantage of the coincidence of our being editors of the annuals of our representative schools.

On Tuesday we presented the school with three books about Nova Scotia. One was about Oak Island; another was about 13 little Nova Scotia children; and the third was about the legends of Glooscap. In the afternoon we went with the Geography Club to the site of Expo '67.

On Wednesday, we went to Ottawa and met Mr. John Lloyd, our Member of Parliament. He had us taken on a specially arranged tour of the Houses of Parliament, which were closed to visitors at the time. From the top of the Peace Tower we saw all Ottawa stretched out before us like a huge relief map. I was surprised to find the House of Commons considerably smaller than I had imagined and the Senate more lavishly decorated than the Commons. The Parliamentary library is a particularly impressive room of beautifully carved wood, decorated with the crests of the provinces.

Following our tour, Mr. Lloyd took us to the Parliamentary restaurant, where we enjoyed a sumptuous steak dinner and the interesting account given us by Mr. Lloyd of some aspects of his work. At this time, we had the pleasure of meeting the Minister of Defence, the Hon. Paul Hellyer. After lunch we enjoyed the surprise and pleasure of being taken to the office of the Prime Minister, where we were introduced to Mr. Pearson, shook hands with him, and had our picture taken with him.

After this stimulating experience, we had the opportunity to watch the House of Commons in session at a time of some crisis: the hot discussion about the escape of Lucien Rivard. We should have liked to stay on to hear the debate to its close, but we had to start back to Halifax.

We all feel that the trip was fun and worthwhile, although we regret our brief stay in the House of Commons. Our notes make interesting reading for reflection; they compare our school with one which is also co-educational, prepares for the McGill examinations, has a new headmaster, is a private school, and was founded by a group of parents.

We concluded that St. George's has a slightly higher standard and a more mature student attitude than we have. We decided these desirable characteristics are the result of their five or six years of preparation for McGill examinations, during which time the students have made a good adjustment to the tremendous amount of work these examinations demand. We found that they make greater use of the project approach to their subject matter than we do. We feel they do not have so stimulating a classroom atmosphere as we do, and do not have the friendly teacher-student relationship we enjoy. All in all, we decided we prefer The Halifax Grammar School to St. George's School.

Ian Slayter,
Form 4
Age 15.

Left to right: Mr. Lloyd, J. Steeves, Mr. McNeill, Mr. Pearson, I. Slayter, D. Kernaghan, Mr. Regan.

FOSSIL HUNT AT JOGGINS

(Note the fossilized tree in the bank at the left.)
Left to right: W. Burton, Mr. DeLong, J. Welbourn, S. Baldwin,
Candid Camera: Mr. Karr.

FOSSILS AND FOSSIL-HUNTING

Fossils are the remains, prints, or other indications of former plant or animal life found naturally buried in rock. From the study of fossils we know there has been life on the earth's surface for approximately 3,000 million years.

The Joggins district of Nova Scotia is famous for its wonderful rock formation and large bed of fossils, samples of which are on exhibit in museums throughout the world. The Halifax Grammar School has its own display of fossils from Joggins which were shown on the GAZETTE program and were seen by all those who attended the Open House on May 1. The fossils found at Joggins are part of the Carboniferous Age in the Pennsylvanian Period which is part of the Paleozoic Era. This period was about 235 million years ago. Here the petrified stumps and trunks of trees are still found in place, at twenty distinct horizons through a depth of 2,500 feet. The low, swampy parts of the region must have been heavily wooded during the Pennsylvanian Period. The rivers that carried the sediments down from the Eastern Highlands changed their meandering courses occasionally during flood times, spread through timbered districts, and buried the trees where they stood.

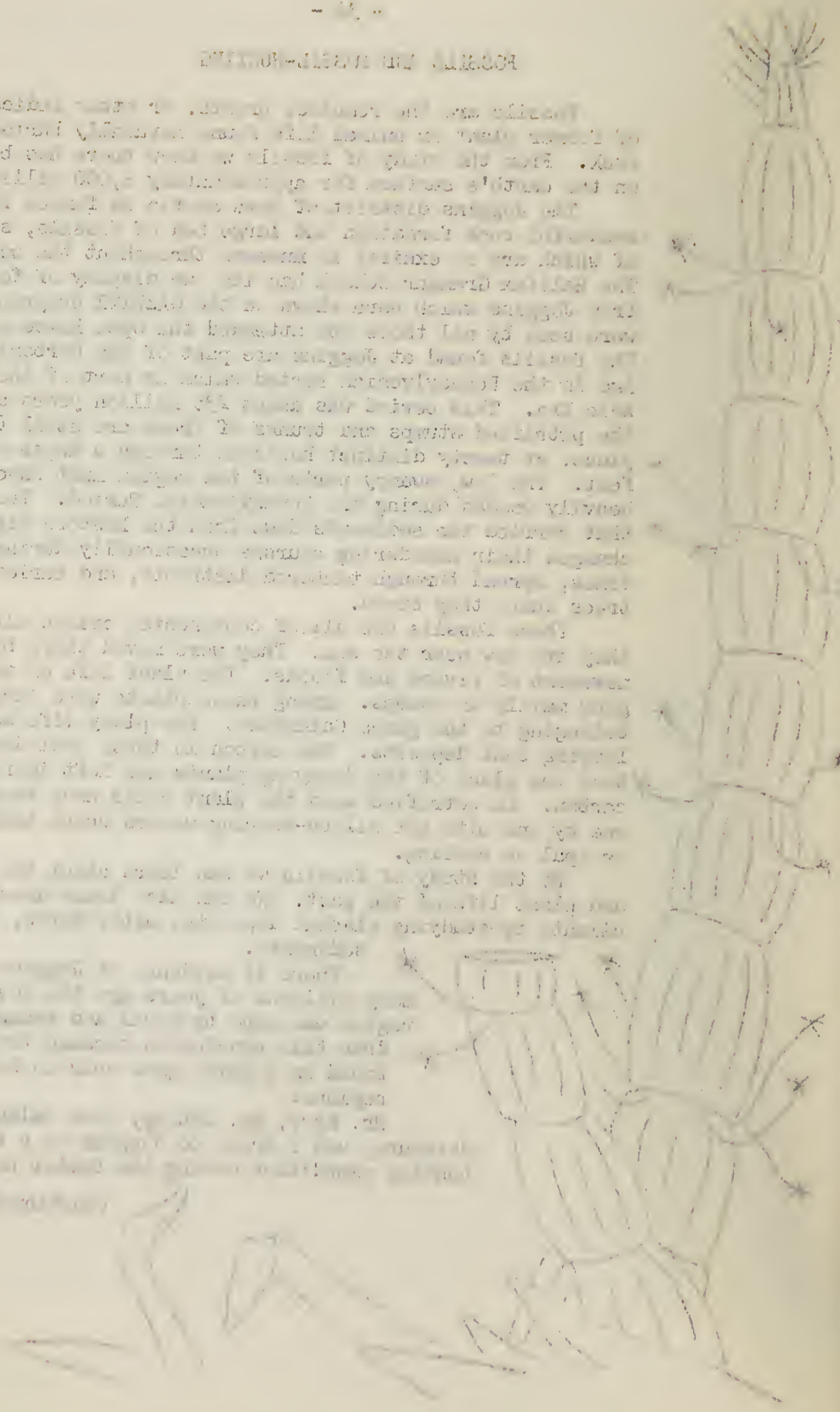
These fossils are all of continental origin although they are now near the sea. They were moved there by the movement of rivers and floods. The plant life of the period grew mainly in swamps. Among these plants were large rushes belonging to the genus Calamites. The plany life decayed, leaving coal deposits. The carbon in these coal deposits took the place of the decaying plants and left imprints in carbon. In petrified wood the plant cells have been filled one by one with hot silica-bearing waters which became agate or opal on cooling.

By the study of fossils we can learn about the animal and plant life of the past. We can also learn about the climate by studying glacial deposits, water marks, and sediments.

There is evidence at Joggins that many millions of years ago the Nova Scotia region was once tropical and swampy. We can draw this conclusion because tree fossils found in Joggins grew only in hot, swampy regions.

Mr. Karr, Mr. DeLong, Sean Baldwin, John Welbourn, and I drove to Joggins on a fossil-hunting expedition during the Easter holidays.

(Continued on page 37)



MON VOYAGE EN FLORIDE

L'année dernière je suis allé en Floride avec mes parents et mon cousin. Nous sommes restés à Fort Lauderdale huit jours. Le temps faisait beau et il n'a plu qu'une fois.

Nous nagions tous les jours et l'eau était chaude. Nous sommes allés à Miami ou nous avons vu le Seaquarium de Miami. Il y a beaucoup de poissons: des dauphins, des requins, des raies, et beaucoup d'autres bêtes de la mer.

Tous les matins je cueillais des oranges qui poussaient près de la maison où nous demeurions.

Le jour avant notre départ nous avons rencontré des joueurs de baseball, les New York Yankees. C'est à Fort Lauderdale que les Yankees s'entraînent pendant l'hiver. Nous les avons vus au stade et là ils étaient en train de faire leurs exercices.

Nous avons beaucoup aimé Floride et nous espérons y retourner quelque jour.

Michael Rowan-Legg
Form 3
Age 14.

SPRING

Spring is the season of vibrant colours,
Replacing white and gray;
The cheerful voices of thrush and swallow
Herald the coming of day.

Spring is the season of awakening beings,
Creatures of every kind;
Spring is the time of the cheerful heart,
And the time of the cheerful mind.

Michael Vondette,
Form 2
Age 13.

THE ACROPOLIS

When we were in Greece, three years ago this summer, our first visit was to the Acropolis. The first building we saw, after walking up the steps, was the Propylaea. The largest building is the Parthenon. The most unusual building is the Porch of the Caryatides. In place of pillars, this building's roof is held up with statues of maidens. Another building is called the Temple of Nike Apteros. The Acropolis was called the blessed mountain.

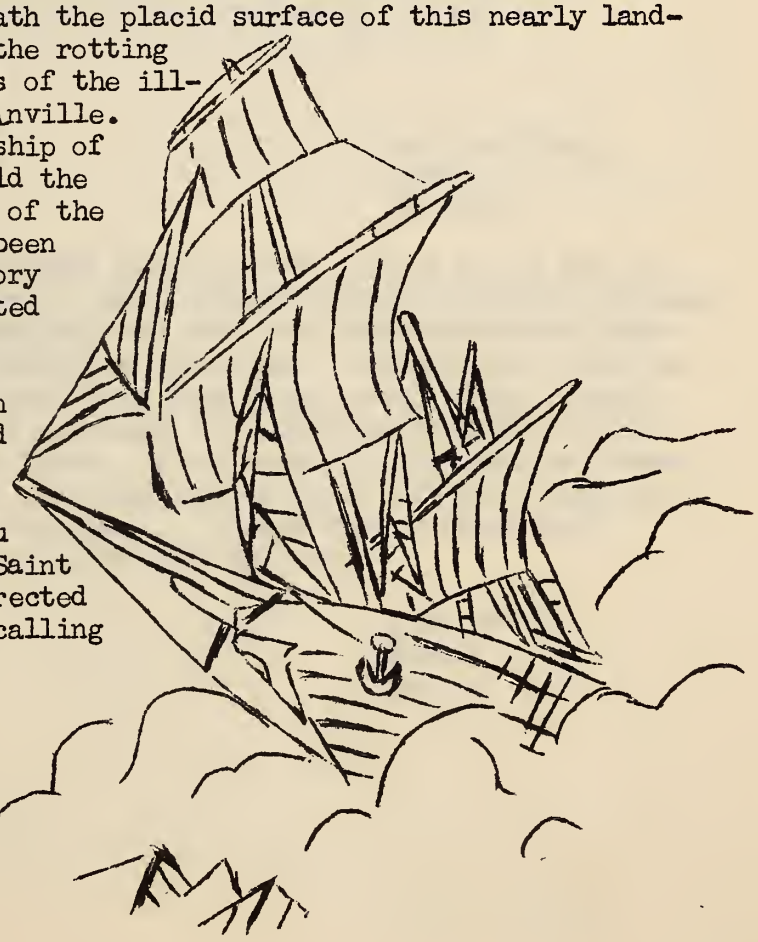
John Sperdakes,
Form 1
Age 12.

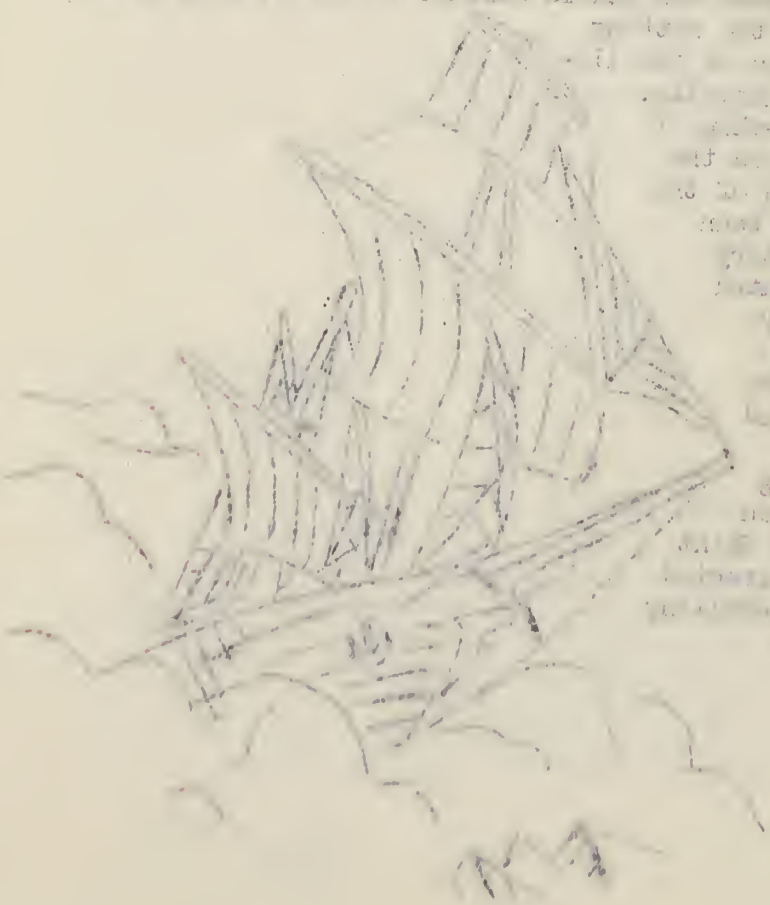
LEGENDS AND TALES OF OLD NOVA SCOTIA

Most of the stories written about Nova Scotia are concerned with the remarkable achievements performed by the early settlers of our province. As our province is noted for its sea-faring people, many tales have been passed down to us concerning the experiences of the old sailors. The legends of buried treasure and the tales about the famous heroes are good examples of this. These stories are all fairly well known, so I am going to tell you about three legends, not so well known, which amazed me.

One is about the schooner "Edythe", skippered by Captain Benjamin Hamor of Mahone Bay. This vessel sailed from New York to Halifax -- 599 miles -- in forty-six hours. The "Edythe" was loaded with hard coal consigned to George Boak of Halifax. That trip was made in a howling south-easter. The log reported "The crew took in the topsail and the balloon-jib in the dog watch, and at eight bells the watch below was told to turn in with their oil hats in their hands". Captain Hamor ordered the watch to give him a call at the slightest change that might appear for the worst, but to sail her for all she was worth, but not to take the spars out of her. Called to the deck at 12:15 o'clock that night, to have a squint at Seal Island light off the Yarmouth coast, Captain Hamor was the most surprised ship master afloat.

There is one story which occurred in the vicinity of our own city, Halifax. As we look northward, we find a mass of water called Bedford Basin. Many people believe that the waters of the Basin hold riches undiscovered. Beneath the placid surface of this nearly land-locked body of water rest the rotting hulks of the scuttled ships of the ill-fated expedition of Duc D'Anville. Does the hulk of some pay-ship of the once stalward fleet hold the money intended for the men of the expedition? It has never been determined. There is a story told that when fate indicated the doom of the supposedly well-laid plans, the rich store of treasure was taken ashore, and securely buried in the land around the Basin. If you are passing along the Bedford Road, you will find, south of Mount Saint Vincent College, a cairn erected by the Monuments Board, recalling the D'Anville expedition.





There is another tale told about a Halifax-owned ship named "Brazil", which vanished in sight of her own port. The vessel was once owned by R.I. Hart and Company and plied between this port and Pernambuco.

It was dusk that evening in winter early in the '80's when the "Brazil" reached harbour limits on her homeward voyage from the South. A pilot was said to have boarded the ship. His course was shifted toward Mauger's Beach light when heavy snow squalls swept in from the North Atlantic. Through this blanketing mass of snow, which lifted momentarily at times, the vessel was seen to be beating her way through the storm-tossed waters of the outer harbour. Then came an end to the storm later in the night. A brilliant moon shone on the still white-crested water, but no trace of the "Brazil" could be seen. She was gone.

What was her fate? It is not known. But ask some of the old time sailor men, who have more than a bit of superstition in their make-up, and they will shake their heads and mutter something about the Brazil being doomed from the day of her launching. Didn't the bow of the "Brazil" strike the water on her launching day and point at the setting sun? "What but a weird fate could await such a vessel?" they will ask. That boded ill for the vessel, according to ancient sea-lore, they maintain. The "Brazil" went to her doom and the sea has kept well its secret.

Ghost tales of old houses, stories of phantom ships along the wild sea-coast, fantastic treasure-hunts for loot, accounts of Gaelic customs in Cape Breton stories by oldtimers of the life in early days all help in the making of an interesting history of Nova Scotia.

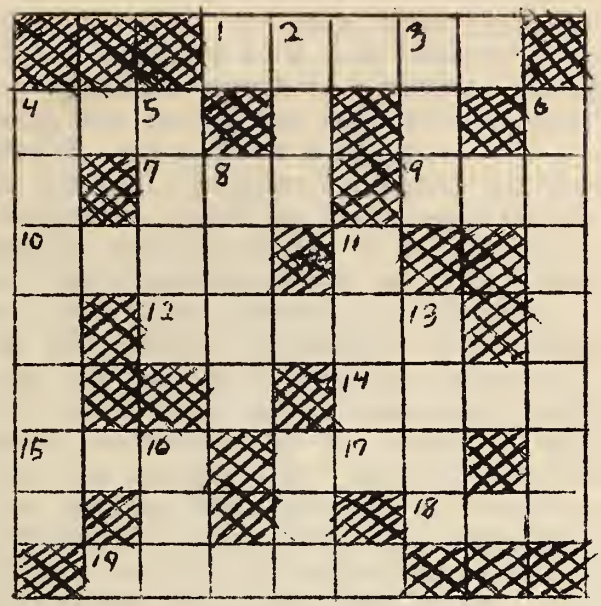
Paul Goldberg,
Form 4
Age 15.

Continued from page 34.

Joggins is situated in Cumberland County on the shores of the Bay of Fundy. Armed with rock-hammers, the intrepid "hunters" set off through a dismal drizzle. Our enthusiasm was not a bit dampened as one after another of us came upon interesting specimens. John Welbourn found an interesting piece of fossilized tree just lying at his feet! During the day we found interesting specimens of cordiates, stigmarias, and calamites which are extinct trees. There were also several coal seams running out into the water. One specimen we could not bring back was a fossilized section of a tree trunk. It must have weighed sixty pounds, and it was a good two miles from the car!

Bill Burton,
Form 2
Age 14.

CROSSWORD PUZZLE



Across

1. A cavalry sword.
4. Says "oink!"
7. To grant the use of a house for rent.
9. A spot
10. Written about by Joyce Kilmar.
12. Fairy-like creatures.
14. A tale of heroism.
15. A small deer.
17. And so on (abbreviation).
18. A workman's set of tools.
19. To ornament.

Down

2. A busy little insect.
3. ---- and reel.
4. A model from which something else is made.
5. Mirthful joy.
6. Magnets do this to metal objects.
8. Fishes with snake-like bodies.
11. To try out.
13. A canvas bag.
16. Opposite of beginning.
17. The organ of hearing.

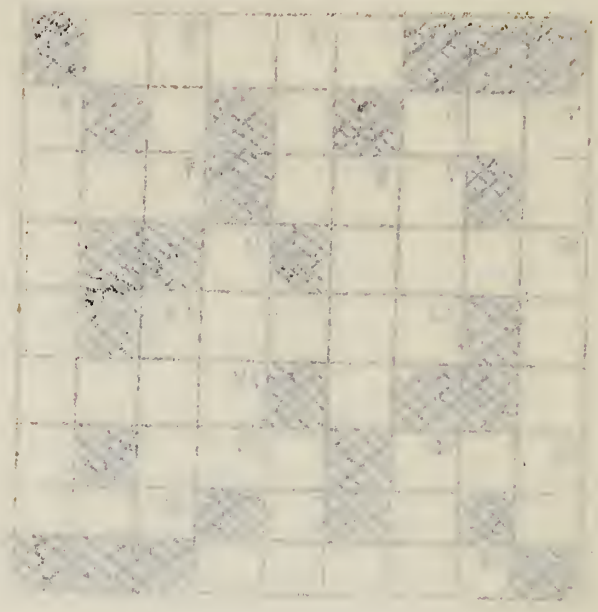
Bernard Newman
Form 2
Age 14.

SPRING

Spring is in the air at last;
Grass is covering the ground.
A leaf on a tree begins to bud;
Birds are all around.

Birds come from their winter homes,
And fish begin to spawn;
Bees are flying to their tasks; --
A break in the hills shows dawn.

Denis. Connor
Form 2, Age 14.



THE ASSEMBLY PROGRAM

During the course of the year, each Thursday afternoon has included a major assembly on a wide variety of subjects ranging from careers to a detailed report on a trip to Africa. In the latter stages of the year, the series has been divided into current events, taken by Mr. McNeill, and a guest speaker.

Early in the fall, Douglas Kernaghan and Gordon Steeves presented an illustrated report on their experiences last summer when they attended the Boy Scout Jamboree at Valley Forge, Pennsylvania. Their report included comments on the New York World's Fair, which they both visited, and some interesting references to Gordie's visit of several weeks, as a member of Canada's Guest Patrol, with an American scout and his family in Memphis, Tennessee.

The first career talk was by Lieutenant Sadoway on a career in the armed forces, particularily the navy. He explained the numerous positions one can apply for in that particular branch of the armed services and the high standard of education needed to earn a commissioned officer's rating. Next Mr. Pugsley gave a talk on law in which he told some of his interesting experiences he has had as a lawyer. Our third career talk was given by Dr. Collin of the Bedford Institute of Oceanography on the subject of oceanography and the great choice of fields to specialize in.

In December, we had our first full length movie, David Copperfield by Dickens, the story of the life of a boy who had to cope with many hardships during his youth. Later Pride and Prejudice by Jane Austen was shown. It concerns the story of the Bennett family and the attempts of Mrs. Bennett to marry off her five daughters to suitable upper-class men. Finally in April, Captains Courageous by Rudyard Kipling was shown. It portrays the story of a conceited, rich boy who, after falling off a ship, is picked up by a crew of fishermen who completely change the personality of the boy. A film put out by the tourist bureau on points of interest in Nova Scotia was also seen.

Musically, we were entertained by a woodwind section of the Halifax Symphony Orchestra directed by Mr. Fenwick who said that he would like to bring more different sections of the orchestra to the school. He added that this was the first occasion on which a chamber section of the Halifax Symphony had appeared in a school in the Halifax area.

Just before the spring recess, a program of German lieder was presented by Mr. Karr. He discussed the origin and development of the art song and illustrated his talk with songs by Schubert, Schumann, and Richard Strauss.

On his unusual trip to Africa Mr. March gave an interesting and educational talk and slides about the tour which covered the perimeter of the continent. The next week, Dr. Colwyn Williams of the University of Saskatchewan, originally from Wales, gave a very informative talk on Canada's role in the United Nations, its peace-keeping problems, and some of the major crises which the U.N. has had to face in the past years.

John Steeves of the school then gave a talk on his trip to Montreal and Ottawa with Ian Slayter, Douglas Kernaghan, and Mr. McNeill, the tours they had,and their meeting with Prime Minister Pearson.

(Continued on page 48)

Ἡ Ἀκρόπολις

Πρίν ἀπό τρία χρόνια ὅτα ἐπήγαμε στὴν Ἑλλάδα τη σκέψμας ἦταν νὰ ἐπεισκεπτοῦμε τὴν Ἀκρόπολι.

Το πρῶτο κτήριο ποῦ εἴδαμε οτὰν ανεβήκεμε τὶς σκάλες εἶναι τὰ Προπύλια, Τὸ μεγαλίτερο κτίριο που εἶναι ὁ Παρθενῶν. Τὸ κτίριο που εἶναι διαμορετικο εἶναι οἱ Καρυοτίδες Ἀντί γιά κολῶνες τὴν οκέλων την σκέλων τὴν κρατά αγαλματε κορι τδίω. αλλό κτιρίο εἶναι ὁ Ναος Απτερα Νίκκης. Τὴν Ακρόπολι τὴν ὄνομ ἔταν "Τερος Λομος"

- John Sperdakes, Form 1
Age 12

AMOS "KING" SEAMAN

The small boy, paddling up the River Hebert, in his small birch-bark canoe, was running away from the life that he had known for thirteen or fourteen years, and was venturing into what was for him a strange new land, filled with unknown dangers and joys. As he thought back over the years, since 1788, when he was born in Sackville, New Brunswick, he might have thought of the harsh existence he had lived, the beatings, the cruel work, or he might have been thinking of one fleeting moment filled with terror. When he arrived at River Hebert, he was in a very poor state. His canoe had hit a rock and there was a great gaping hole in the bow. He had one shoe, no hat, and was in his shirt sleeves.

The people of the area took to Amos Seaman and his willingness to work helped him to make a little bit of money, as the people were continuously offering him jobs. He moved to Minudie, and, after he had saved quite a bit of money, he entered many partnerships of various types. From these he made more money and, little by little, he acquired enough money to buy a quarry and send small consignments of grindstones to Boston. This venture succeeded very well, so he enlarged his scheme. Eventually he was able to go to Boston with his shipment, which he sold for a good profit. With his profits he bought imported goods such as silks, satins, linens, and china to sell back at Minudie. Minudie, as a result, became the commercial center of Cumberland County and even the people from the large town of Amherst for many years came across the waters of the Bay of Fundy to shop for fine goods.

From all his business ventures, he accumulated a lot of money and became the most powerful man in the area, so that the people all about began to call him "King" Seaman, and with all his capital he was ready to buy a large estate. When the Des Barres Estates offered the Minudie lands, consisting of 16,000 acres of good land, for sale, King Seaman bought them. There was difficulty in determining the exact boundaries, and Seaman was faced with 43 lawsuits. pleaded his own cases, and won every one. On his estate he built a huge mansion. It was a two-story building. On the ground floor there were four main rooms, each twenty feet square. The halls were flagged with stone from his quarry. There were magnificent sliding doors between the rooms with eight fireplaces in the house. When one went upstairs, he went up a beautiful oak and teak staircase. Upstairs there were five large bedrooms. In the house there was also a kitchen forty feet by sixty feet which was divided into two separate kitchens. There were also a wine cellar, a root cellar, and servants quarters.

Since "King" Seaman's many business ventures had been flourishing greatly, he decided to build a steam mill. On the 10th of August, 1843, the first steam sawmill in Nova Scotia opened at the cost of fifteen hundred pounds. It had one of the highest outputs in Canada. Seaman travelled extensively through the United States and Canada. Later in his life he was presented to Queen Victoria at Buckingham Palace. King Seaman was of united Empire Loyalist stock, and in spite of his poor bringing-up, he was proud of his family. He even went to great lengths to prepare a genealogical table of his family. The year before his death, Seaman wrote that he had a hundred head of cattle, as well as numerous horses and sheep. This number of livestock is not so great as would be expected of so powerful a man,

but considering the fact that this was the middle of the nineteenth century and there was no heavy machinery, this number's significance is more in keeping with his character and position. Seaman had eleven children, all of whom strayed from their home in Minudie later in life. However, he saw to it that his seven sons had a good education from King's College in Windsor. His four daughters attended seminaries, as was the custom at that time.

"King" Seaman never had a formal education like his children. He was illiterate until he was full-grown. After he had married Jane Metcalf, she assisted him in the three R's, as she was a woman of intellect and learning. This helped him tremendously in his many business ventures.

To inform his servants and to post messages to his many tenants, all of whom he knew individually, he built a box on a huge wooden post in the center of Minudie. The messages were almost always in rhymes. He also, instead of saying hello to someone he met on the street, would make up a rhyme using that person's name, profession, or one of his peculiarities.

In his seventy-sixth year, in 1864, "King" Seaman died. With him died the saga of one of the greatest men in Nova Scotia. All that remains of the abrupt, jealous "King Seaman", once the richest man in Nova Scotia, is the remains of his once beautiful mansion at Minudie and a small monument which will stand across the road from the ruin and in front of the house still occupied by his last surviving grandchild, Mrs. George Symes. The fortune has been dissipated through many years of legal squabbling; the great granite plinth above his grave stands at an uncomfortable angle over the unkempt and over-grown cemetery plot; even the bronze marker to be placed in the modest monument is a subject of dissatisfaction to members of the family, who complain they were not consulted about its wording. This true tale of the once mighty who have been brought so low is like a modern retelling of the story of Shelley's "Ozymandias".

Could it be that the old story of a curse is true? "King" Seaman was a harsh and ruthless man. The story goes that one sturdy employee objected to Seaman's demands and unfair treatment and threatened him with bodily injury. The man was banished from the "kingdom", according to the perhaps apochryphal story, by being tarred and feathered and being set adrift in a boat on the Bay of Fundy. As he drifted away from land, he stood, looking like a figure from Dante's "Inferno", pointing at "King" Seaman and prophecying that he and his descendants would never again know success and all the land would become deserted and desolate. Have you visited Minudie lately?

Drew Bethune and Chris Curtis
Form 4,
Aged 15.

ROMA VICTA

Magnus Caesar Galliam superabat
Cum exercitibus ductis e Roma
Sed urbo Romae eam quam voluit
Et sic petivit Romam.

The great Caesar was conquering Gaul
With armies brought from Rome.
But the city of Rome was what he wanted
And so he made for Rome.

Praesidium Romae fugitiebat
Et reliquum oppidum timebat
Caesar erat imperator
Postquam transierat flumen.

The garrison of Romw were fleeing
And the rest of the town feared.
Caesar was conqueror
After he had crossed the river.

Michael Vondette,
Form 2
Age 13.

TACKS AND TAX

There are many different kinds of tacks: carpet tacks, paper tacks, thumb tacks, and income and hospital tax. After you finish paying your income tax, you may find use for your Hospital Tax.

When you place a thumb tack on somebody's seat, it is very amusing for the audience, but not so for the victim. As the old saying goes, "Happy is the man who sits on a thumb tack, for he shall surely rise again." Of course, when your sailbout tacks up a river, that is a different matter altogether. As Perry Mason would say, "It's incompetent, irrelevant, and immaterial."

In your life, you will probably find that taxes are important. To misquote the late Mr. Churchill, "Never in the field of human government has so much been owed by so many to so few for so long."

Tommy Purves,
Form 1
Age 12.

JOSEPH HOWE

Many people say that Nova Scotians are mostly narrow-minded fishermen with no spark of greatness in them whatsoever. A statement such as this is ignorant, for the renowned Canadian statesman, Joseph Howe, came from Nova Scotia.

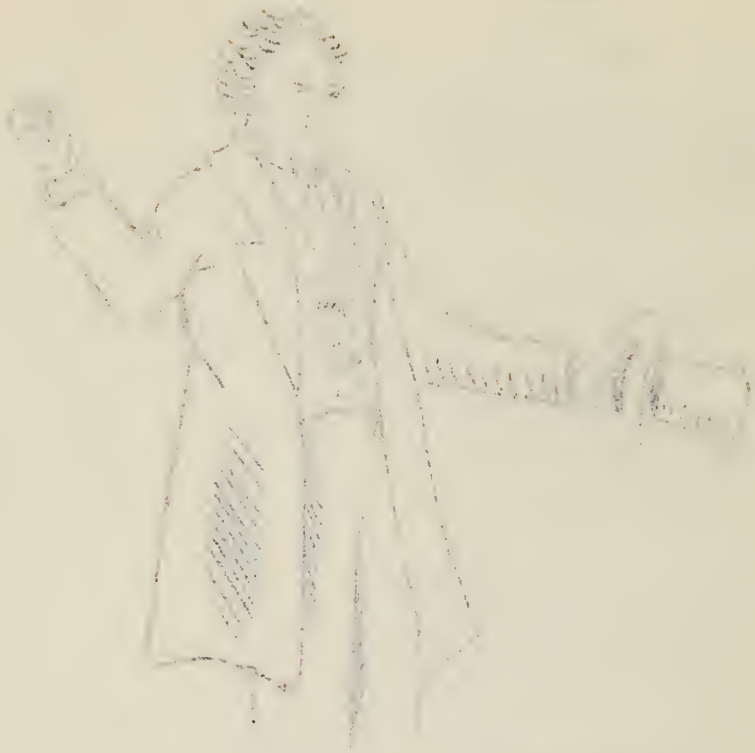
Son of John Howe, Queen's Printer and Post-Master General of Nova Scotia, Joseph Howe was encouraged to find a career in writing and newspaper work early in life. Having little formal education as a child, he read many books, including the Bible and Shakespeare, and took up his father's profession at the age of thirteen.

In 1827, Howe began printing a weekly non-political journal called the "Acadian" which became the best journal in Nova Scotia, but when he became interested in politics he sold the "Acadian" and bought the "Nova Scotian" in 1828. In 1835, he almost ruined his career when he printed a letter in his paper, taking full responsibility for its contents. This article bluntly accused the Nova Scotia courts and magistrates of taking bribes, and having other dishonest dealings. Naturally, the courts of Nova Scotia didn't hesitate in accusing him of libel. Although Howe was unable to obtain a lawyer, he appeared confidently before the court to plead his case. His speech of self-defense lasted six long hours and was well spiced with numerous allusions to "The just British Courts"; "Duty to British Tradition", etc. The speech was magnificent, but its overwrought sentimentality was nauseating. Perhaps Howe was appealing to the sympathies of the jury. If so, he was enormously successful, because he soon found that he had gained "Liberty for the press" in Nova Scotia, as well as his personal freedom.

This great man, while ascending the ladder of fame, still found time to ride throughout Nova Scotia during the summer months, getting to know his countrymen far more intimately than any man before him.

In time he was elected a member of the Provincial Assembly, where he devoted twelve long years to attaining "responsible government"

(Continued on page 65)



BEHIND THE SCENES OF A T.V. COMMERCIAL

Over the stage our hero flew,
Sidestepping props and the T.V. crew,
He was on camera to save the day,
But foolishly forgetting which lines to day.

He knew advertising soap was not very hard
As long as he read the proper cue card;
And dashing along and thinking with glee
Guess what Mum, I'm on T.V. -

He reached the sink with a yell and a lurch;
He jumped off his scooter and went quickly to work,
He scoured the pots and rinsed every pan,
Proving that Ajax outcleans Spic and Span.

In horror he found he had praised cars instead,
And later saw it was true what they said -
That an engine can't make one feel clean all day long,
And the two common products have two different songs.

This story will change the whole nation's schedule,
For now all can't wait for the next sponsor's commercial.
Our hero retreats to that next grim location
Reminding all to stay tuned: same time and same station.

Alan Spafford,
Form 4
Age 15.

SPRING

It now is April and spring is here,
And now spring flowers start to appear;
Rows of flowers in gardens neat
Bloom while the farmer sows his wheat.

Flowers bloom among tall trees
With melting snow up to their knees.
I love to walk up our garden's hills,
Looking for golden daffodils.

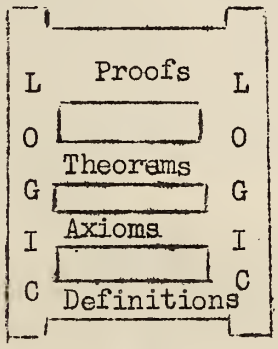
David Rhude,
Form 2,
Age 13.

LOGIC: THE BEAUTY OF MATHEMATICS

Mathematics, a science that is based on logic, is the study of algebra, geometry, and their offspring. Algebra, the study of number, and geometry, the study of form, are closely related and are both dependent on logic. Mathematics, therefore, exists in our minds. Algebra is based entirely on logic. Geometry, however, is based on logic and facts which cannot be found by reasoning alone. Such a fact is the equation for the circumference of a circle: $C = 2\pi R$. The numerical value of it is a fact. It cannot be found by pure reasoning alone, but must be found by a combination of reasoning and observation of the physical world.

Just as chemistry is full of facts and is the study of certain facts, mathematics is full of concepts and is the study of certain concepts, of which the two basic are form and number. An example of a concept in geometry is a point, and an example of a concept in algebra is the number one. On first thought, these concepts seem simple, but, if one thinks about them, one will realize that they are quite difficult to comprehend.

Because mathematics is based on logic, a mathematician needs only a pencil and paper, or a blackboard, to pursue his studies. He may have a straight-edge, a compass, and, if he is investigating solid geometry or one of its off-shoots, a model of the object he is studying. He also needs a method of reasoning, because haphazard reasoning will get him nowhere. The method or system is known as the axiomatic method. It takes the form of a ladder which has been with us since the time of the Greeks.



This ladder, the axiomatic method, is the surest way that man can ascend to the truth. The ladder begins with definitions which are descriptions. Their existence must be proved, generally by construction. Using these definitions, the mathematician makes assumptions called axioms. He then proceeds to state a theorem and finishes by proving it. Along all four steps or rungs of the ladder, he uses sound reasoning and ascends to each higher rung on the support of logic.

Logic sometimes creates paradoxes. The best known is one of several that the Greek, Zeno, proposed. If, in a race between Achilles and a tortoise, the tortoise is given a head start, Achilles can never catch up. When Achilles has reached the tortoise's starting point, A, the tortoise will have moved on to B. When Achilles has reached B, the tortoise will have reached C, and so on. Thus, Achilles may get closer, but he can never quite catch up. The logic involved is sound (though in real life, of course, Achilles would overtake the tortoise). Without sufficient and proper definitions and axioms, logic can create still more

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paradoxes. Such a paradox is the statement: "Any triangle is isosceles." This statement can be proved easily. If the inside and the outside of a triangle were defined, then this statement could not be proved. Mathematicians are constantly revising mathematics in order to get rid of these paradoxes.

Mathematics is also a language. It is one that is accepted and used the world over. It is also the simplest language. Nobody has trouble understanding what 2+2=4 says or means. Some may not know why, but they can read and understand the statement. Because mathematics is a simple and precise language, 2+2=4 can be interpreted in only one way; it is used as the universal language of science. Mathematics is called the "Queen of the Sciences".

Science would be greatly hindered without mathematics, and physics would be a small, unimportant science. The great problem with the social sciences is that mathematics is not and cannot be applied to them at the present to any great extent. It is important to note, however, that mathematics is applied at least to some extent. These sciences will flourish as time goes on when mathematics is applied more and more to them. This greater application will come with more research. These sciences will then not be bogged down so much in the meaning and bulk of words but will be using a compact language which will clarify them. These sciences will then rise in importance and make new decisions.

The symbols of the language of mathematics are exact in meaning. They are related in a logical way. In an ordinary language each word has several meanings, and semantics is a real problem. There is no such thing as semantics in mathematics. An equation in mathematics is a statement with one definite meaning. Many things can be done with an equation. A statement in English may mean several things, and nothing can be done with it to prove something else, as with an equation. Mathematicians are, however, trying to transform English to mathematics by Boolean algebra and sentential calculus. Again we find the mathematics is based on logic.

Logic has carried mathematics a long way. It all began with counting and now consists of abstract sciences such as topology and still more abstract sciences such as that of group theory, one of the mathematical sciences which will greatly simplify the social sciences.

Topology, also known as rubber sheet geometry, is the science of distortion. It is concerned with the way in which surfaces may be distorted by twisting, bending, pulling or in other ways deforming. Topologists deal with surfaces which have only one side. Children of two and three years understand topological concepts just as well, if not better, than the professional topologist. The reason is simple: their young minds have not yet conformed to the limited scope of a more mature mind; they still view things from an unbiased standpoint. Thus, they understand genus far better than adults and certainly no less than the trained topologist. The genus of an object is the number of times that the object may be cut all the way through and still exist in one piece. A football, therefore, has genus 0; a teacup has genus 1 (The handle may be cut.); a figure 8 has genus 2, and so on. An ideal topologist would be a person who had been taught nothing but topology since he was three and had played with nothing but the most complex of Chinese and Japanese puzzles through childhood.

Topologists have come up with strange creations and ideas. A Mobius strip (a strip of paper with a half-twist and joined at tne ends), which is a creation of topology, has only one side. Make one and see for yourself. A Klein bottle, a physical impossibility (Remember: Mathematics exists in our minds.), has no inside. One of topology's unsolved problems is the four colour map theorem which states that only four colours are needed on a flat map so that no bordering areas have the same colour. This theorem has never been proved either right or wrong, but it can be proved that only six colours are necessary for a map on a Mobius strip and seven colours colours on a torus, a doughnut-shaped object. There are many more interesting aspects and concepts of topology. Again we see that mathematics exists in our minds and, therefore, is based on logic.

A mathematician creates with ideas just as a painter creates with paints and a poet creates with words. Ideas are important to all three, but to the mathematician only; they, put together with logic, are important. Mathematicians' creations are beautiful. Mathematical beauty is easy to recognize but hard to define, just as it is easy to recognize a beautiful poem but hard to define its poetic beauty. There are many beautiful theorems and proofs in higher algebra and geometry.

Chess, a game familiar to most of us, is based on mathematics. All chess players can recognize a beautiful chess problem, This beauty is the beauty one finds in mathematics. Think about them: logic, beauty, and mathematics.

Ian Slayter,
Form 4
Age 15.

Continued from page 39.

To celebrate United Nations Human Rights day, Form 4 staged three humorous one-act plays depicting different situations which can arise. The Debating Society later presented a debate on the subject of the "bomb" and the chairman, Mr. Empey, explained in detail the formalities and procedures which must be followed during a proper debate.

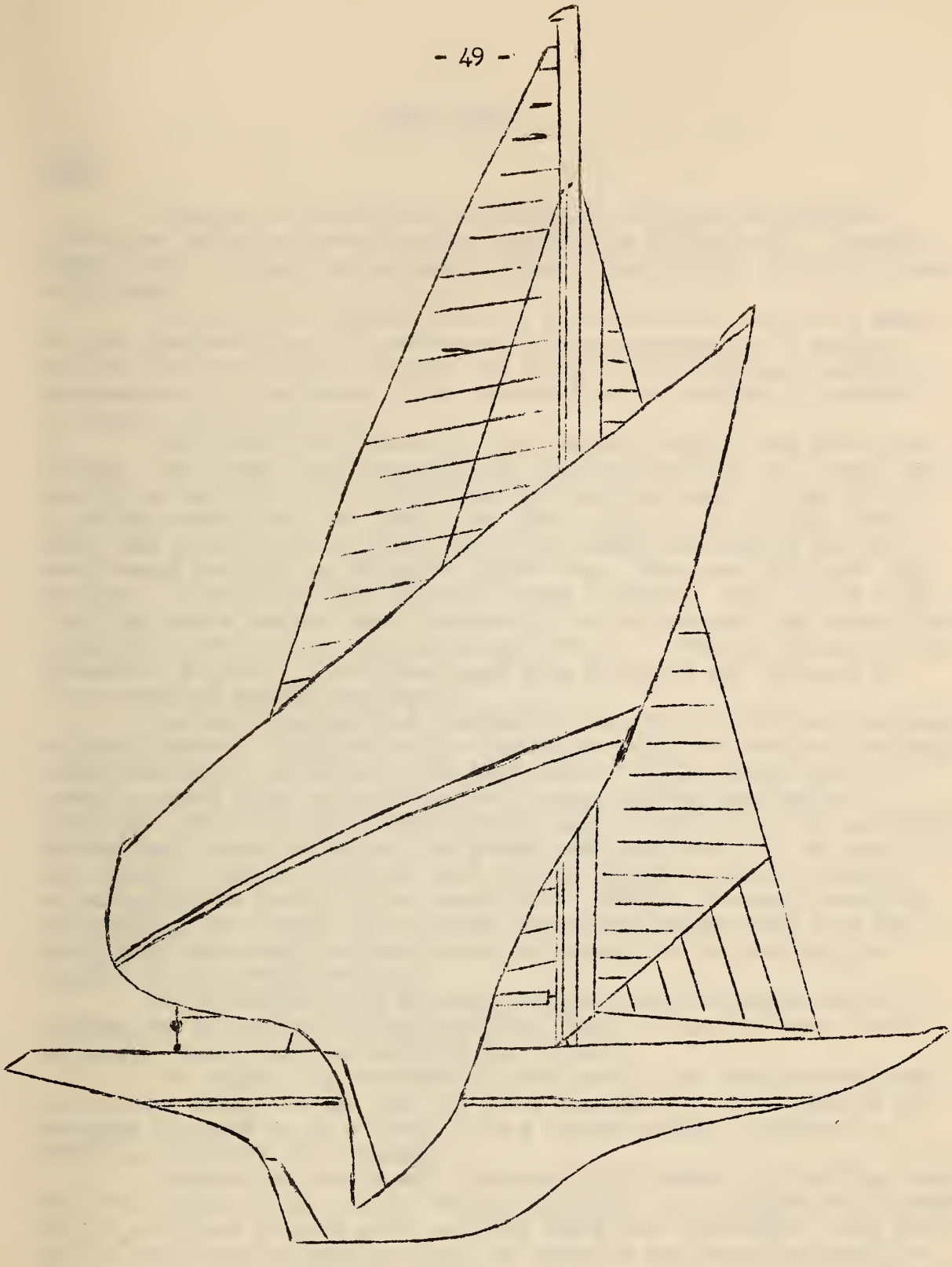
In its entirety the assembly program has been very interesting and of benefit in one way or another to all. It is hoped that the program will be continued next year and that even higher standards will be reached.

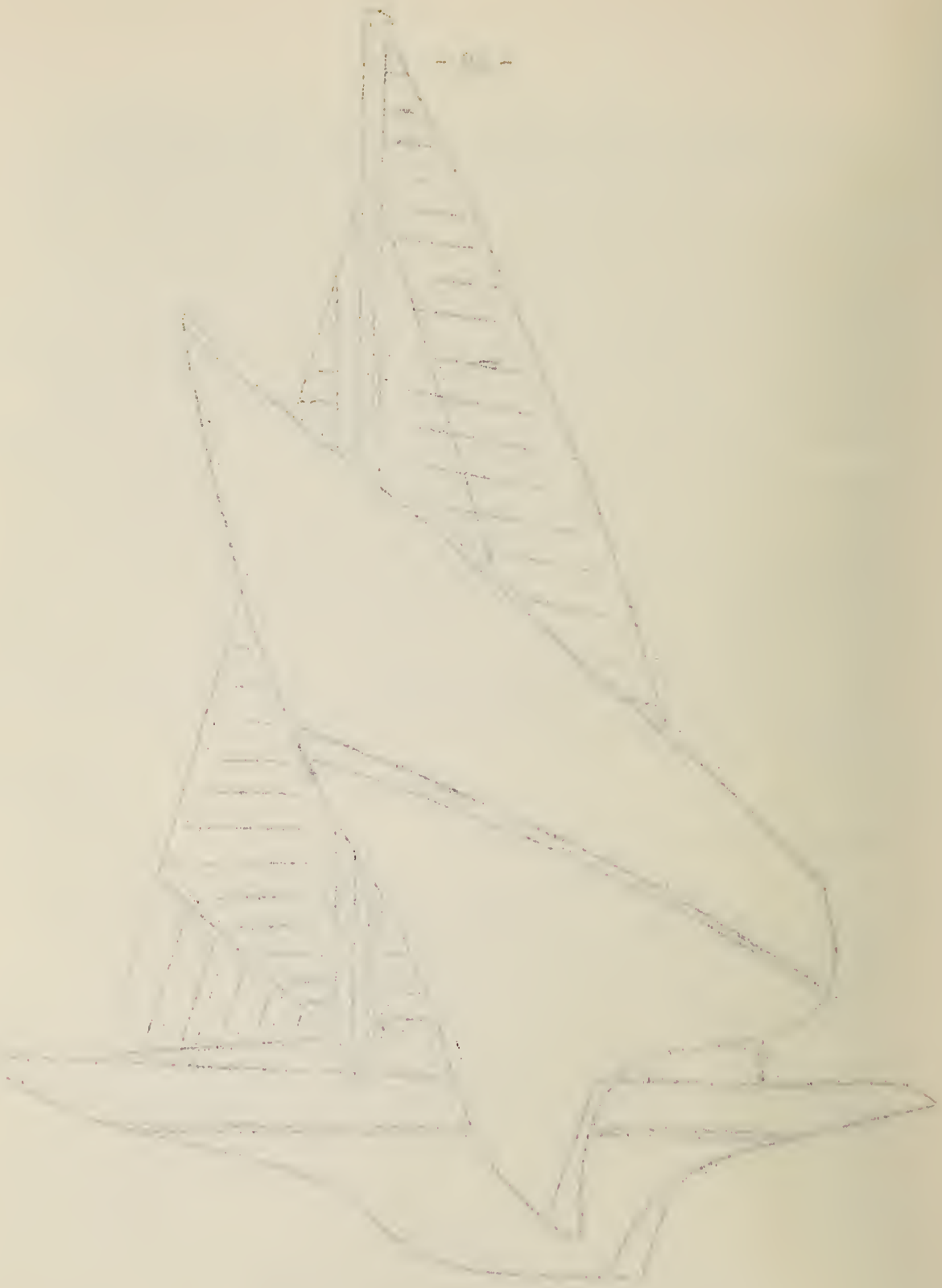
Alan Spafford,
Form 4
Age 15.

BAD LUCK

Once upon a time at the break of day,
A curious man had lost his way.
He saw a sign post, very faint,
Climbed to the top and read "Wet Paint".

Jamie Kitchen,
Form IV
Age 16.





YACHT DESIGN

HULL

Whenever a Twelve Meter is designed, all that is connected with speed and manoeuverability is deeply taken into account. Because these boats represent the ultimate in theory and design, I shall discuss only them.

First of all a Twelve Meter is a seventy-foot sloop that races for the America's Cup. It costs roughly three-quarters of a million dollars, and its creation employs the world's best designers, builders, and materials. Each phase of her construction is steeped in hundreds of years of trial and error.

One basic theory concerns sail carrying ability and water-line length. The longer the water-line is, the more sail she can carry, and the faster she will move. It follows that the more sail you can put on a smaller water-line, the faster the boat will go. When a gust hits a boat, she should pick up speed, but if the water-line length and sail area remain constant as the boat "heels" over, the speed will also stay the same. Conclusion? The water-line must increase. How is this done? Give the boat a bow and stern over-hang. For this reason the water-line length is restricted in all one-design classes. Nathaniel Hershoff, the "Wizard of Bristol", first discovered this principle and is known as "the father of modern yachting".

Another important and interesting theory is called the "Vertical Balance Theory". Using the water-line as an axis, the force on the sails above must equal the force on the keel below. Further away from the axis, an equal force can be obtained by using lighter and smaller materials. Thus, one extra unnecessary ounce at the top of the mast can theoretically equal three or four pounds near the deck. If the keel is made deeper, less lead need be used and the boat may be made lighter, so naturally the draft is also restricted. Rudders, however, have been made smaller by placing their centre of gravity farther away from the axis, thus lessening the under-water resistance but maintaining the control of the larger rudders.

Still dealing with this axis theorem, the resistance at the fulcrum can be increased by widening the beam, so the keel need not be so heavy; beam, too, is therefore restricted.

The higher the freeboard is, the heavier the boat becomes, and the farther away from the axis the heavy deck gear is put. This is why the wise designer tries to keep it at a minimum height, but more restrictions control his thinking.

Perhaps the boat's most important hull feature is the "flat run". From the bottom of the transom to the water-line it is called the "counter", but it continues forward about half-way along the water-line. This part of the boat being relatively flat, the water is not forced to take unnatural shapes and, thus, the resistance is low. The longer this feature is, the faster the boat will travel.

RIG

It has been said that a boat is only as good as her sails. How true this is. The wind is her source of energy, and her use of it is a most crucial factor. Basically, though there are many variations in design, two main features are used in rig design: jet propulsion

and the air-foil. The air-foil is kept in mind in shaping the sails, and jet propulsion in the sail combinations. The "belly" of a sail is put near the "luff", or in the forward section of the sail, and, as the wind is cut by it, the sail pulls forward. When a jib, especially a genoa, is sheeted in, the air, rushing over and out of it, is compressed between it and the main-sail, creating a "jet" that thrusts the yacht forward. The usage of sail shapes, sizes, thicknesses, and fabrics are all governed by the wind force, the situation of the boat, and the knowledge of the crew.

CONSTRUCTION

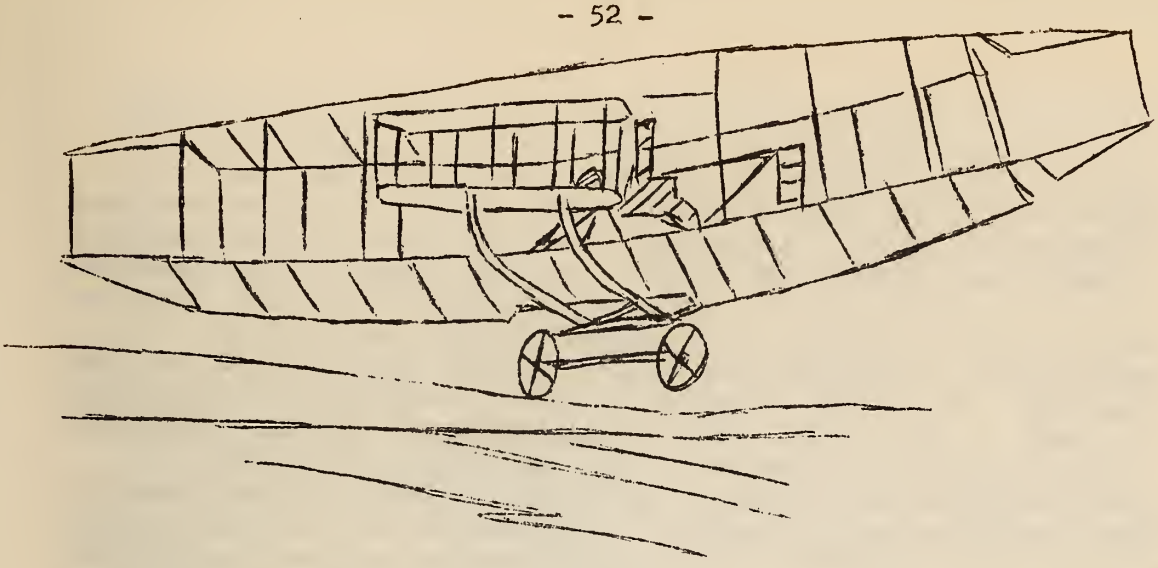
Construction is actually the easiest and cheapest phase of all. Here the main idea is the strength and weight of the hull materials. The most successful method for the Twelves is to use laminated wood and aluminium "backbone" features. Heavy metal fastenings are few and far between. One would think that these boats would not last long; one would be correct. The truth is that the boat will be out-dated at the end of a single year, so they are built with only a few dozen races in mind. Cheap, aren't they?

GEAR

It is in the fittings and rigging that most of the money is tied up. "Coffee grinders", big two-man winches, have been known to cost up to five thousand dollars each. Each yacht has at least two masts -- one heavy and one light. The latest masts have been made of aluminium and titanium together, and, even so, some of them have been broken. Wind indicators, weighing only a few ounces, have been removed from the mast-heads because they were dead-weight objects.

The Twelves, as well as being the keenest fleet in the world, are also the world's most extravagant pastime. One can buy a good one-design yacht for about five thousand dollars. Such a boat would be between thirty and thirty-five feet, and a rather good buy at that. Anyone who appreciates the beauty and speed of a good racer generally doesn't mind "paying the shot", for he, if no one else, thinks it is worth it, and that is all that matters.

Alan Chaddock,
Form 5.



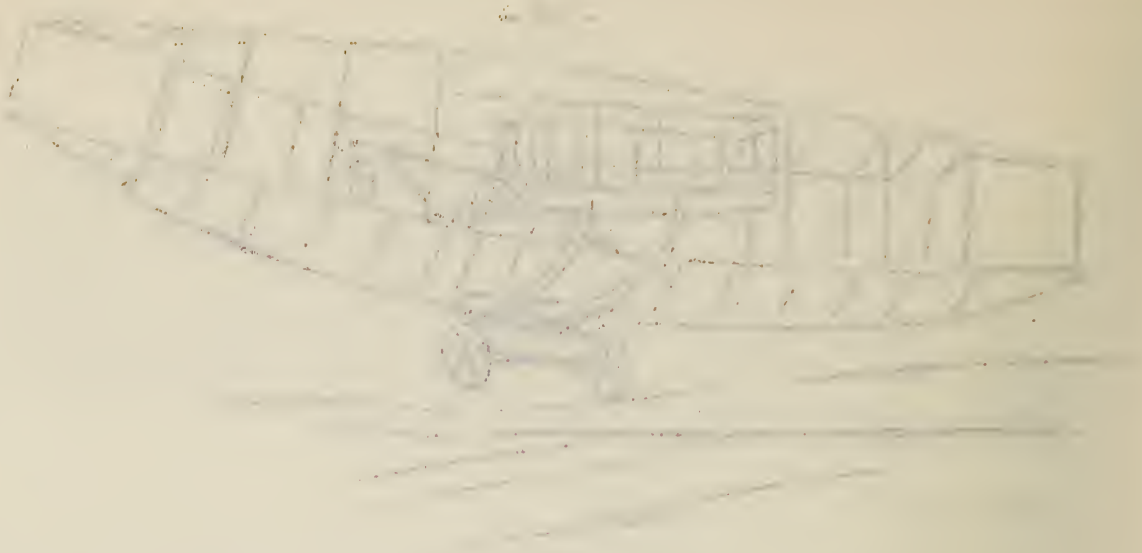
MY GRANDFATHER AND ALEXANDER GRAHAM BELL

In one of the most beautiful parts of North America, where the Bras d'Or Lakes reach searchingly into Cape Breton Island as if trying to grasp the secret of its grandeur, beauty, and serenity, there was a man with many visions. Already he had given the world hearing aids, the telephone, a surgical probe, and many other inventions. Now he was playing with kites, for he wanted to probe the secrets of flight.

In the summer of 1906 John A.D. McCurdy, who was an engineering student in Toronto and a great favorite of Alexander Graham Bell's, took my grandfather to Baddeck for a visit. The visit lasted many years, for Grandfather became completely absorbed in Dr. Bell's experiments and stayed on to work with him. At this time Bell was carrying out experiments with large tetrahedral kites. These were kites made of a honeycombing of pyramid-shaped sections. Since my grandfather was a student in mechanical engineering, and Dr. Bell's knowledge in this field was somewhat limited, by grandfather's visit was made at the ideal time. Completely captivated by Dr. Bell's ideas, "Casey" Baldwin, as everyone called my grandfather, returned to the University of Toronto for a period of special study. He returned the next summer to Baddeck, and it was at this time that Mrs. Bell made the suggestion that an organization should be formed. Thus, backed with her money, the Aerial Experimental Association was founded. It consisted of Dr. Bell, my grandfather (F.W. Baldwin), J.A.D. McCurdy, Lieut. T.E. Selfridge, and Glenn H. Curtiss.

The AEA's first powered plane was designed by T.E. Selfridge and was named the "Red Wing", because its fuselage was made of red silk. Grandfather was the pilot. The flight was made on March 12, 1908 near Hammondsport, New York. The plane flew 319 feet ten feet above the ice of Lake Keuka. Thus, Grandfather became the first British subject to fly and the seventh man in all the world to fly. This was also the first public flight in North America, for, though the Wright brothers had flown successfully at Kitty Hawk, they had done all their flying in secret.

The second powered plane was designed by my grandfather. There were a lot of changes as a result of what he had learned from "Red Wing". This plane was the first in the AEA to have tricycle-wheeled undercarriage. The first two trials were piloted by Selfridge. Unfortunately they were not successful. The third trial was conducted with Grandfather at the controls, and he managed to get the plane off the ground for a flight of 279 feet at a height of ten feet.



The fourth plane was named "The Silver Dart", because the fuselage was made of cotton soaked in silver dye. This plane was the most successful of all. She was flown by J.A. McCurdy who was AEA's treasurer and assistant engineer. "The Silver Dart's" best flight was about four and a half miles long.

At this time T.E. Selfridge was killed in an airplane crash when he was flying for Orville Wright; the plane was up very high and then suddenly went into a nose-dive and never pulled out. This was a severe blow to AEA, for Selfridge had been a great help to them.

A short time later my grandfather and J.A.D. McCurdy were offered financial backing to build an airplane like "The Silver Dart" and try to sell it to the Canadian, British, or some other government. They became the first aircraft designers and builders. The company was called The Canadian Aerodrome Company.

The next thing which interested Dr. Bell was hydrofoils. The hydrofoils were all self-propelled and travelled at high speeds. The speed of the hydrofoils was greater than that of any other boat, because hydrofoils do not have as much resistance to water as ordinary hulls. Hydrofoils are wings, in a way; the greater the speed of the vessel, the higher it rises in the water, because the foils plane upward and lift the hull.

Grandfather transformed the idea into actuality in the H.D.I. This was the first of many. The HD I was propelled by an aerodrome pusher engine and she travelled about 45 miles per hour. The next hydrofoils were also piloted by my grandfather. The HD 2 had a lot of engine trouble and finally on a test run hit an object and sank. HD 3 was also another crack-up, but fortunately my grandfather escaped injury. The HD 4 was very successful. She was shaped like a cigar and was powered by two engines. This ship was very fast, attaining 71 miles per hour. There were others, but the first four were the most important.

Alexander Graham Bell died in 1922, and my grandfather felt his loss keenly. In the years that followed until his own death in 1948, Grandfather continued experimenting and designing hydrofoil boats of all kinds, including racing boats, and hyrdofoil targets for both navy and airforce. If he were alive today, I am sure he would still be enthusiastically involved in the experimenting which is continuing with the hydrofoil and with the new idea in transportation, the hovercraft.

Sean Baldwin,
Form 2
Age 13.

AN ART CLASS AT WORK

Clockwise from lower left: Ian Slayter, Alan Spafford, David Bell, Kathy Stuart, Leslie Nash, John Ross.

FRENCH INSTRUCTION

Instruction in French Begins in Grade One. Paul Murphy intently watches a film strip and listens to the accompanying tape.

THE ART CLUB

One of the many extra-curricular activities of The Halifax Grammar School this year is The Art Club. This club, under the direction of the art teacher, Mrs. McNeill, meets every Monday after school. The purpose of the club is to provide an opportunity for students to exercise their artistic abilities during their spare time.

Among the members of the club are John Sperdakes, Elizabeth Slayter, John Lawson, Harris Barton, and Stephen Cochrane. These students have done projects with clay, toothpicks, scraper board, papier mache. They have also experimented with printing on cloth, paper, and other materials.

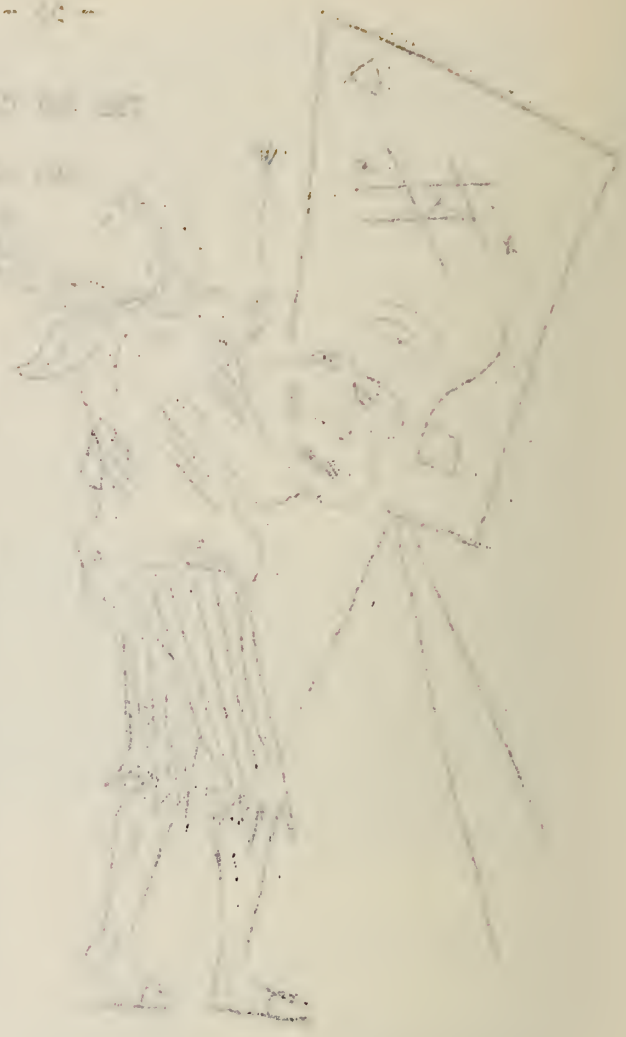
Probably the most popular activity during the year in the Art Club and in the regular art classes has been clay modelling. The clay is easy to work with and is similar to the modelling clay which can be purchased in a toy store. The clay used is worked on with water and modelled or sculptured into the desired shape. It is then all wet to harden and then it is glazed. The glazing is done by first painting the work with a paste-like substance, and then, when it is dry, it is fired in a kiln. The result is a beautiful and shiny work of art.

Among the exhibits made by the group were an impressive suspension bridge constructed of toothpicks by John Lawson. John Sperdakes made a clown from cloth and buttons and mounted it on a black cardboard background. Stephen Cochrane made a model of a pyramid and a Sphinx in clay, and a monster of papier mache. Harris Barton made a picture of a loon in scraper board and also turned out models of a lion, a mermaid, and a dinosaur in clay. One of the most interesting productions of the year was a wall mural called the Egyptian Jungle which was produced by John Sperdakes and Harris Barton.

The members of this year's club have had many enjoyable sessions from which they have gained valuable knowledge and experience. They can look forward hopefully to next year's activities.

Harris Barton,
Form 1,
Age 12

Ritchie Henman
Form 4
Age 15.



THE CONSTRUCTION OF A MAGNETIC CLOCK

When John Morse and I picked the construction of a clock on December 10th for our Science Club project, we had no idea of how the project would turn out. We had joined the club because we thought a construction project would give us experience in the combination of theory and practice. We had no ideas, however, of the problems the practice would create. I found the theory much more interesting when related to practice.

The following principle gave us an idea of how to make the clock work: "If an electric charge flows through a magnetic field at right angles to that field, there will be a force exerted at right angles to both the flow of the charge and the magnetic field." In employing this principle, we decided to construct a pendulum-type clock. We would electrify the pendulum and then place a magnetic field at right angles to this pendulum. There would then be a force created causing the pendulum to sway. In considering the construction of the pendulum, we encountered another useful scientific principle. The period of the swing of pendulum is equal to the length of time required for the pendulum to complete a full cycle, or to return to its starting point. The amplitude of a pendulum swing is the distance between the starting point of the static pendulum to either extremity of the swing. For small amplitudes we found the period to be independent of the amplitude but dependent on the length of the pendulum. It is, therefore, possible to vary the period by changing the length of the pendulum. If we can change the length of the pendulum so the period is a simple number, A, representing a length of time, the collaboration of a dial will be much easier. We used the fact that the period is equal to 2π multiplied by the square root of the length of the pendulum divided by the acceleration of gravity ($P=2\pi\sqrt{\frac{L}{g}}$) to calculate the length of the pendulum. However, it was difficult to cut the pendulum precisely the length indicated by this law derived from the laws of Simple Harmonic Motion, so we used stop-watches and an adjustable pendulum length to adjust the pendulum's period precisely.

During the course of the construction of the clock, we ran into many problems, each of which had to be solved before we could go on to the next step. The construction of the magnet was difficult because it had to be made out of a brittle type of sheet steel which kinks easily and is difficult to cut accurately. The gap in the magnet for the accommodation of the pendulum had to be kept as small as possible to concentrate the magnetic energy. The pendulum pivot had to be designed to reduce the friction to an absolute minimum. The pendulum had to be adjustable, so we designed one of heavy-gauge wire with a one-foot extension of threaded brass silver-soldered to the end which bears an adjustable weight held in place with a nut fitting. We had to develop a proper charge to drive the pendulum, and then we had to devise a switching apparatus to switch the direction of the current, so the pendulum can be propelled in both directions. We are still faced with the problem of a proper clock-face, but that will not be too difficult to solve, for there are a number of interesting possibilities.

Now we are looking forward to possible future refinements, such as doubling the length of the pendulum to increase the accuracy of the clock, or adding a device to disengage the cog-wheels of the clock, thus making it into a stop-clock.

Along with giving us the opportunity to write up this experiment and submit it to McGill University as part of the science examination, this project has given us much valuable experience in the applying of scientific principles to a practical problem. One of the main things the building of the clock taught me is that theory and practice are complimentary. If I ever have the chance to participate in a project like this again, there is no doubt in my mind that I will undertake it.

Drew Bethune,
Form 4
Age 15.

O. F. MEYERHOF

Otto F. Meyerhof was born in Hanover, Germany, on April 12, 1884 and died on October 6, 1951 in Philadelphia.

He began his career with the study of medicine and was first interested in psychology and psychiatry but under a friend's unfluence turned to physiology and biochemistry. After settling in Kiel in 1912, he began his series of papers on the biochemistry of the contraction of intact, isolated muscle.

At the beginning of the twentieth century, there had been much interest in the question of whether the heat given off by the animal body could be accounted for by the energy released through the combustion of food. Meyerhof wanted to know how the potential energy of food was made available to the cells. (He chose the muscle cell, because it was the opportunity to relate chemical transformations with the production of heat and mechanical work.)

When he started working in this field, all that was known was the formation of lactic acid. Where this compound came from, how its formation provided energy, and how the energy was used were completely unknown. Answers to these questions brought him the Nobel Prize.

In 1923 he was awarded the Nobel Prize in physiology and medicine jointly with A.V. Hill for their discoveries of the "fixed relationship between consumption of oxygen and the metabolism of lactic acid in the muscle." For some time afterwards, he continued discovering now enzymic stages in the carbohydrate breakdowns.

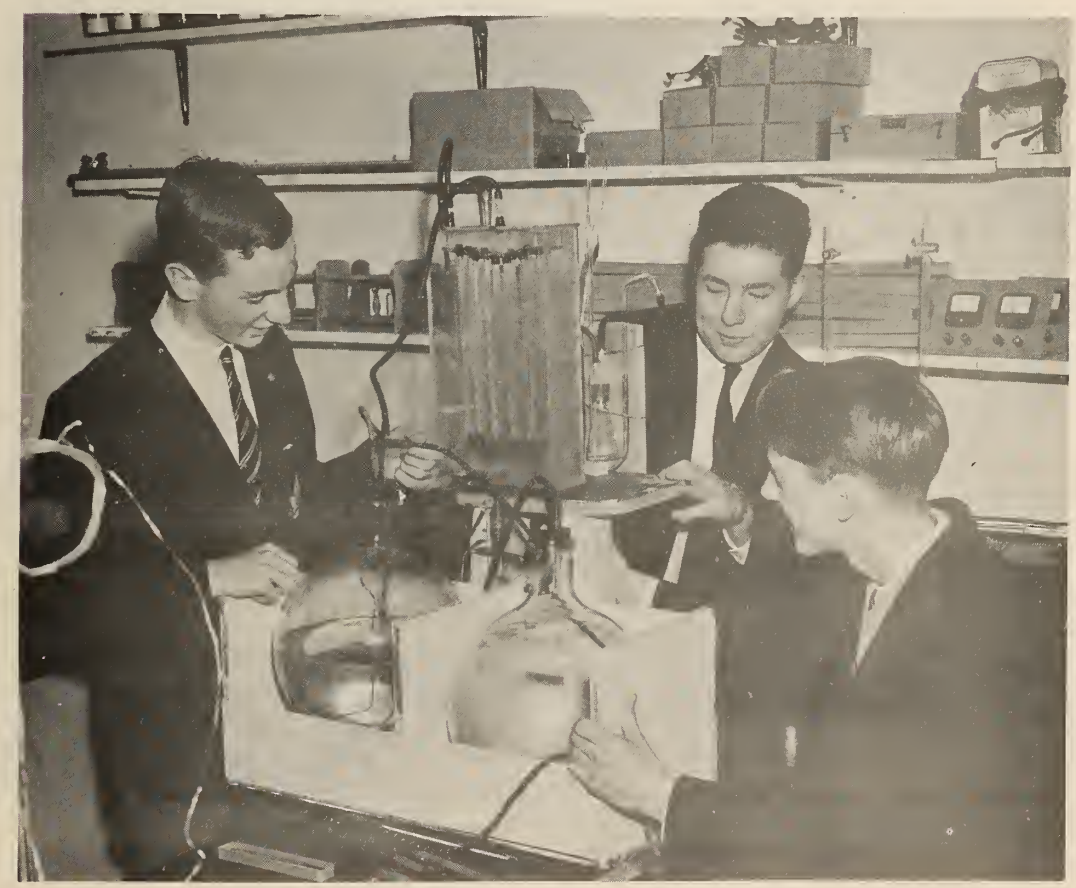
From 1929 until 1938 Meyerhof was head of the Department of Physiology in the Institute for Medical Research in Heidelberg. In 1937 he was elected a foreign member of the Royal Society.

For five years, after the rise of the Nazis, Meyerhof managed to stay in Germany almost unaffected, but in 1938 he was forced to flee to Paris where he worked until the invasion of 1940. With the help of the Rockefeller Foundation and friends in America, he and his wife were able to reach the United States. There he was appointed professor of physiological chemistry in the University of Pennsylvania, a position which he held until his death.

Peter Meyerhof,
Form 3,
Age 14.

THE SCIENCE CLUB

Front, left to right: J. Sperdakes, S. Cochrane, E. Slayter, H. Barton, R. Piercey, J. Welbourn.
2nd row: G. Steeves, C. Curtis, D. Henman, N. Holmes, J. Morse.
3rd row: D. Kernaghan, J. MacLachlan, D. Bethune, I. Slayter.



ONE OF MANY SCIENCE CLUB PROJECTS

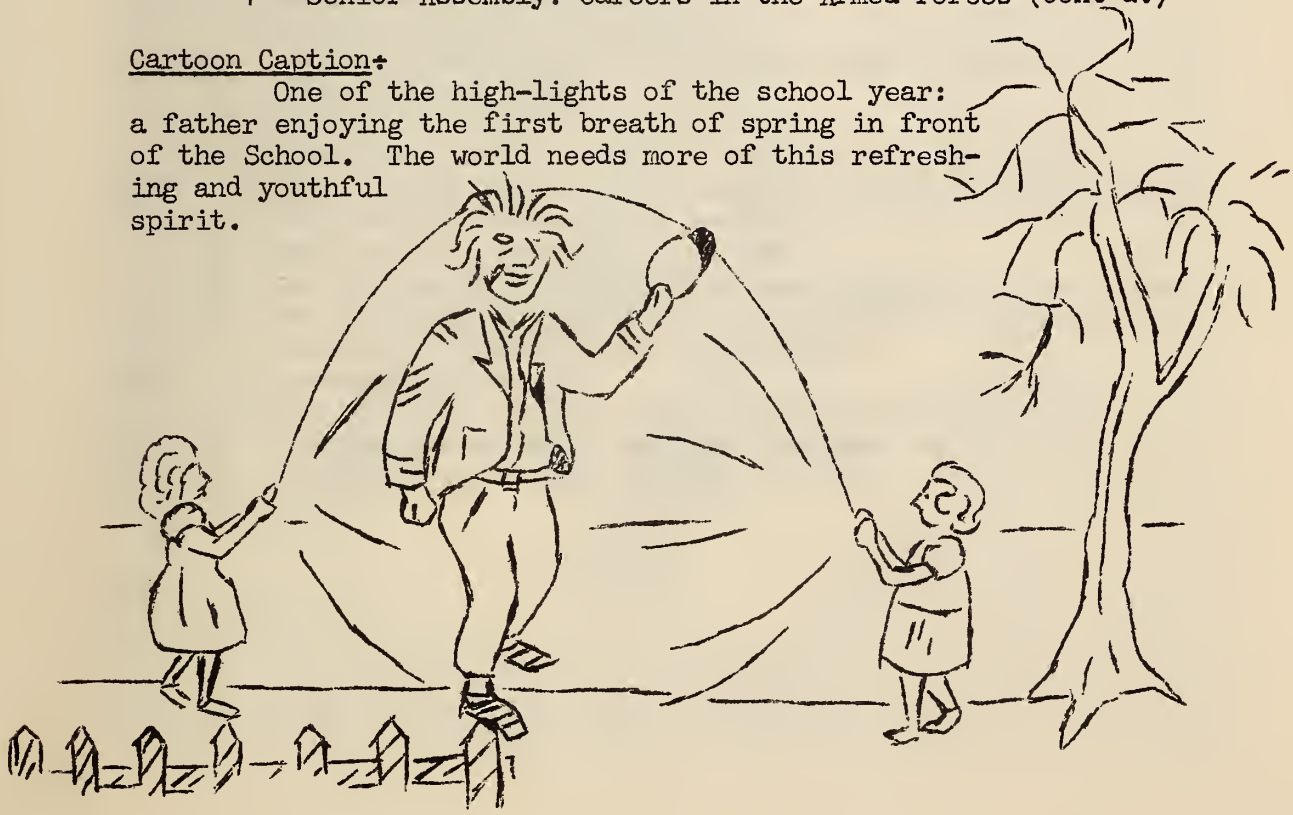
D. Kernaghan, J. MacLachlan, and N. Holmes are pictured with the still they constructed – exclusively for distilled water, of course.

SCHOOL DIARY

Sept. 11 - Graduation ceremonies for Forms 5 and 6, 1963-64
21 - Parents' Group - Welcome Evening for new parents
Oct. 1 - Gordon Steeves and Douglas Kernaghan conducted Senior Assembly on their experiences at the World Scout Jamboree
8 - Staff panel discussion of international affairs
15 - Film: "Mr. Hemo", the story of blood
20 - Form 4 wrote Preliminary Scholastic Aptitude Tests, which are conducted by the College Entrance Examination Board of Princeton, New Jersey, U.S.A.
- Neptune Theatre group performed for the Senior Assembly and Form A
23 - Parents' Group party at the Jubilee Boat Club
26 - Junior School Round-table Conference for parents
29 - Assembly taken by members of the U.N. Club
Noc. 10 - Mrs. Stoddard talked to Junior School on Micmac Indians
12 - Senior School Assembly by Mrs. Stoddard on Anthropology
18 - Senior School attended performance at Dalhousie of ROMEO AND JULIET
26 - Start of Examinations
Dec. 3 - Record program presented by Mr. Stanford
10 - Assembly: Human Rights Day
17 - Movie: DAVID COPPERFIELD
18 - Christmas Recess begins. Student Council Dance in evening.
Jan. 4 - Re-opening for Winter Term
7 - Senior Assembly: Careers in the Armed Forces (Cont'd.)

Cartoon Caption:-

One of the high-lights of the school year: a father enjoying the first breath of spring in front of the School. The world needs more of this refreshing and youthful spirit.



SCHOOL DIARY, cont'd.

Jan. 27 - Hockey games with King's College School
Feb. 10 - Junior Choir participates in Music Festival: First Place
11 - Movie: PRIDE AND PREJUDICE
13 - United Nations Model Assembly; Grammar School takes part
18 - Form 4 visit Oceanographic Institute
18 - Mr. Ronald Pugsley spoke to Senior Assembly on law as a career
25 - Dean Cook of Dalhousie gave an illustrated talk on Africa
March 4 - Hockey teams to Windsor for games with King's College School
4 - An editor of the Chronicle-Herald talked to Junior School on the general idea of a newspaper
4 - Mr. Karr presented a recital of German Lieder
5 - The Junior School visited the Chronicle-Herald Building
10 - Professor Colwyn Williams of Saskatchewan University spoke on Canada's role in United Nations peace-keeping
17 - John Fenwick of the Halifax Symphony came with three musicians who demonstrated the playing of the flute, oboe, clarinet, and bassoon.
18 - Dr. Collin spoke to the Senior Assembly: Careers in Oceanography
22 - Examinations begin
April 1 - Senior Assembly: a debate by the Debating Club: Nuclear Deterrents
2 - Student Council Dance
5 - Swim Meet at Stadacona
8 - Movie: CAPTAINS COURAGEOUS
14 - United Nations Club "Freedom from Hunger Dinner"
15 - Easter Recess begins
26 - Spring Term begins
27 - Form A toured the Canadian National Railways Station
May 1 - Open House: Parents and others interested in the School saw the work of students and teachers
18 - Halifax Zone Track and Field Meet
20 - Captain Law talked about his recent trip to Easter Island
27 - Mr. C.A. Fowler talked to Senior Assembly in the series on careers: "I want to be an architect".
June 7 - Examinations begin
12 - Annual Track and Field Meet at The Wanderers' Grounds
14 - Closing Exercises at Anglican Diocesan Centre
15 - McGill Matriculation Examinations begin.

SPORTS

Print by
Bill Burton, Form 2
Age 14

SPORTS

SOCCER - The Grammar School had a good year in soccer and were undefeated in two starts. The first game was the highlight of the sports year; the students played the Staff in a good exhibition of sportsmanship. Even though the Staff lost 1-0, they were still in good spirits and in good condition. Chris Curtis was the star, for he scored the only goal.

In the only outside game, the soccer team journeyed to Dartmouth for a game with Bicentennial High School. The game ended in a 0-0 tie with first star going to John Morse for his superb performance in the cage. He made several saves which looked like sure goals. All players on our team were tired after the game, but their spirits were still high.

HOCKEY - This year has been very exciting to those who are athletes and sports enthusiasts. Hockey has high-lighted the year with several games against other teams. Both the Seniors and the Juniors went to King's College School in Windsor, where we played two exciting games.

The year started with a visit here by the King's College squad and two unexciting games at the Civic Arena. The Senior team lost 15-1, and the Juniors lost 8-1. We were obviously playing superior teams. Both goalies, John Ross and Bill Black, played very well but could not hold back the King's teams.

The Grammar School Seniors won their only game against the Police Boys Club, an entrant in the Minor Hockey Association, by a score of 8-6. The game was very exciting for the spectators who saw several great saves by goalies John Ross and Mike Merriges. Kitchen made three goals, Danny Sangster two, and Bethune, Spafford, and Hicks shot singles. Scott Bushel and Peter Amico each shot a brace for their team.

For return matches with King's, the teams journeyed to Windsor for two exciting games. The Seniors played well but were beaten 6-3, but the Juniors played their opponents to a 4-4 tie. Both Bethune and Kitchen shot a brace of goals. Tom Wood scored a "hat-trick" for King's. The Juniors were leading 4-2 going into the final period, but a leaky defence gave King's opportunities to tie the score. Dan Sangster starred in this game with three goals; Denis Connor contributed the fourth.

In our next encounter, Cornwallis Junior High School swamped the Senior team 12-1 in a one-sided game at the Civic Arena. Our boys were plainly not playing up to par.

Next, the Grammar School played a Bantam Team made up of All-Stars from the Minor Hockey Association. The Bantam boys deserve great credit, for they beat us with their fast skating and slick stick-handling by a score of 6-4. Dan Scouler scored two and Bethune and Kitchen each got one. Again, John Ross played well in the net, although a little weak this time on the long shots.

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In the best game of the season the Seniors came back from an almost insurmountable deficit 401, scoring three quick goals in the last period to force a tie with Cornwallis Junior High School. Dan Sangster scored three goals, and Paul Stoddard and Chris Flick each shot a brace for Cornwallis. The highlight of the game was a penalty shot late in the third period by Kitchen. He skated in on goalie Norm Thow and shot waist-high from twenty-five feet. Both goalies played well and deserve credit, for they made several outstanding saves.

The final game of the year was one of the best. The Police Club beat the Seniors 6-4 in a hard-fought return match. Both goalies played almost professional hockey, and all the players on the ice skated well. No player can be singled out for special comment. Sangster scored two and Bethune and Kitchen each got one.

Jamie Kitchen,
Form 4
Age 16.

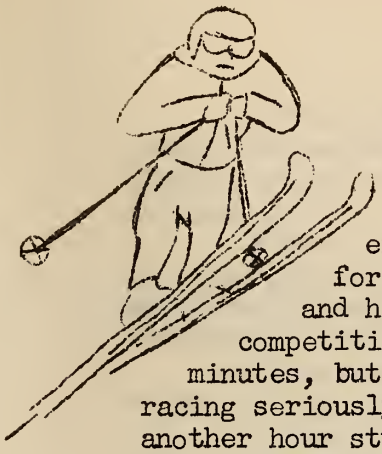
T. C. HALIBURTON

"If the sea was always calm, it would pyson the universe," said Thomas Chandler Haliburton (1796-1865). Born in Windsor, and a Nova Scotian of United Empire Loyalist descent, Haliburton was a keen observer of the local scene and wise in the ways of human nature. Through the letters of Sam Slick, first published in Joseph Howe's Newspaper, THE NOVA SCOTIAN, he, a great lover of Nova Scotia, used the influence of his gifted pen to try to prod Nova Scotians into changing their less desirable habits.

Haliburton was something of a prophet, for he predicted Confederation many years before Canada was finally united. Although he foretold the formation of the Dominion, at first he was not in favor of it, but, when he saw Confederation was for the benefit of all the colonies, including Nova Scotia, he gave it his support. While he was a representative of the people of both Nova Scotia and of Launceston, England, he always fought vigorously for the people's wishes, or for what he thought best for them. When his bill for a permanent grant to Pictou Academy -- which had high standards and allowed students of any creed or class to attend -- was turned down, he resigned his seat in the Nova Scotia Legislature. In his book, THE CLOCKMAKER, about an American chronometrist, if I may coin a word, who tried to sell timepieces to every man, woman, and child in Acadia, he attacked the bad qualities in nineteenth century Nova Scotians. "The long rambling dissertation on conceit to which I had just listened from the Clockmaker forcibly reminded me of the celebrated aphorism 'Gnothi seauton' (Know thyself), which both from its grand antiquity and wisdom, has been by many attributed to an oracle."

If Haliburton had lived today in Nova Scotia, what would he think of the problems now facing us? The question of grants to universities; the lack of initiative in Nova Scotians; the high cost of living and the modest wage scale. Perhaps we could learn something from him and his books. He was certainly a man Nova Scotia, Canada, and the world needed in the last century.

John Morse,
Form 4
Age 15.



SKIING

Skiing, like all sports, offers the thrill of competition. Although there are those who ski for an excuse to get away from work, there are also those who ski for the thrill of it. Most people ski up and down the slopes and have great fun, but to me the real thrill of skiing is in competition. Racing on skis is fast; a run in a race lasts only minutes, but the preparation is a matter of hours. Those who take racing seriously, spend at least two hours waxing their skis and then another hour studying the course.

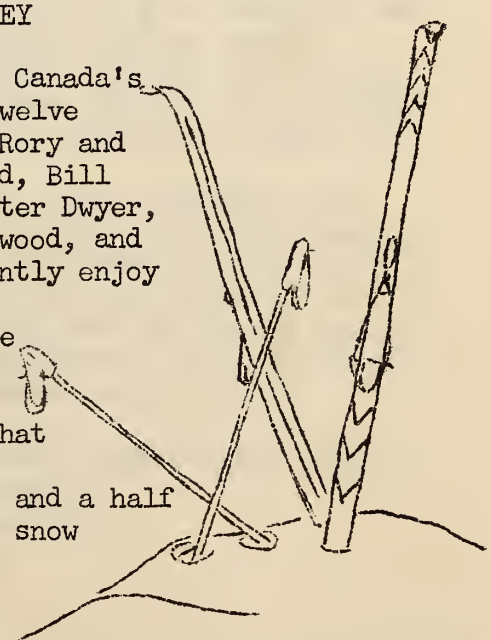
From the day before a big race to the second before the start, the tension is on. You study the course as if your life depended upon it, and until the race you try to keep calm -- and at the same time remember the course. Then comes the start. From then everything is a "blank" except the course ahead of you. The tension is gone, and you're out to win. Now the finish line shows up ahead of you, and you strain every muscle to reach it as soon as possible. You're through, relaxed and glad you have not made a mistake or fallen. If you take a second run, it is not so bad as the first.

After you are through the finish line, the only thing you can do is hope that no one beats your time. When every competitor has come down, you can relax, and, if you have lost, you can try to find out why.

Above all, when you are skiing, make sure you have good equipment, and make sure it is in top condition. If it isn't right get it fixed. Because some time when you fall, you just might not get up under the power of your own two legs. I know!

Peter Norwood,
Form 3
Age 14.

SKI WENTWORTH VALLEY



Despite the fact that skiing is Canada's fastest growing sport, there are only twelve students in the Senior School who ski: Rory and Bill Burton, Denis Connor, Max Stanfield, Bill Black, Alan Chaddock, Paul Goldberg, Peter Dwyer, Randy Piercey, John Welbourn, Peter Norwood, and Ronnie Mann. Only half of these frequently enjoy the wonders of Wentworth Valley.

These are wise people! They are aware of the exhilaration and the sport of skiing, of the excellent snow conditions, facilities, and trails of that snowbound valley.

Wentworth Valley, only one hour and a half from downtown Halifax, has had the best snow conditions in the eastern part of North America for the last two years. The vertical drop (800 feet) and length of the trails at Wentworth pose a challenge for the rest of Eastern Canada. This valley is the largest ski development east of Quebec. Its equipment includes one T-Bar (4,500 feet long), three rope-tows, and another T-Bar planned for the near future.

Peter Norwood and Ron Mann participated in the Maritime Ski Championships, held annually at Wentworth, where there were three Olympic try-outs from the University of New Brunswick particularly for the meet.

Peter Norwood won the Junior slalom, downhill, and combined trophies in the Wentworth Valley Ski Club Championships, while Toby, his younger brother, won the Midget slalom and combined trophies, and the Midget Masters event.

Unfortunately, Peter, immediately after winning these events, broke his leg, one of the occupational hazards of skiing.

Skiing is an exhilarating sport, unless you have a broken leg! People ski because they love the exhausting outdoor exercise, the thrill of speeds up to sixty miles per hour, the challenge, the competition, and the comradeship of this sport.

There is sufficient evidence that a ski club is needed in our school. There is enough interest so that accommodations and transportation could be arranged for skiing at Wentworth Valley. I, for one, am in favor of the formation of a Halifax Grammar School Ski Club. Are you?

Ronnie Mann,
Form 4
Age 14.

(Continued from page 44)

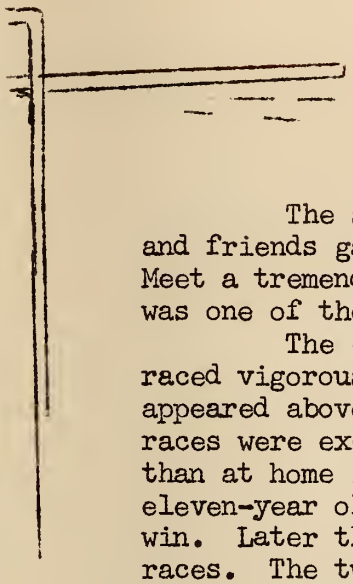
for Nova Scotia. Naturally, this brought him into conflict with the oligarchy, and he was forced to resign by Lt.-Gov. Falkland. In spite of the premature end to this portion of his career, Nova Scotia owed much to Joseph Howe when she got responsible government in 1848, without the bloodshed that preceeded this event in Ontario and Quebec.

In 1860, Howe became Premier of Nova Scotia, but he wasn't given a part in the negotiations for Confederacy even though he had done much to smooth the way. He then fought violently against Confederation, probably out of wounded pride. Before realizing it was impossible to stem the flood, Joseph Howe utterly destroyed his good health in the struggle, but finally he tielded and joined the Cabinet of John A. MacDonald.

Along with his political greatness, this remarkable man granted us a legacy of beautiful poetry of which he wrote, "Poetry was the maiden I loved, but politics was the harridan I married."

An impressive list of facts speaks for the greatness of Joseph Howe - nothing else is needed. Nova Scotians can be justly proud of this man, and look forward to the future with hope that other men as great will rise and make company with his name.

Leslie Nash & Kathy Stuart,
Form 4,
Aged 15.



THE SWIM MEET AT STADACONA

The splashing of water and the cheering of two hundred parents and friends gave the participants of the Halifax Grammar School Swim Meet a tremendous lift. Held at Stadacona on Monday, April 8, the meet was one of the most exciting events the Grammar School has had in years.

The events began with the seven-year olds, who, though young, raced vigorously. At the end of the race the happy face of Kevin Brown appeared above the water. Bluenose had taken the lead! The next two races were exciting from start to finish: Kevin Brown showed he is more than at home in the water by winning both. The race for the ten and eleven-year old crawl was next, and David was the happy contestant to win. Later that night, David distinguished himself by winning two more races. The twelve to fourteen year-old crawl was won by Denis Connor, and the backstroke was won by John Howitt; the breast stroke was won by Sean Baldwin. The Senior winners were Nicholas Holmes in the breast stroke, Gordon Steeves in diving, and Max Stanfield who won both the crawl and the backstroke.

At the end of the meet Bluenose came out on top with 58 points; Shannon was second with 50; Unicorn was third with 46; and sadly, as usual, Hector was last with 43 points.

All in all, the swim meet proved both exciting and successful.

Denis Connor,
Form 2
Age 14.

ANSWERS TO CROSSWORD PUZZLE

ACROSS	DOWN
1. Sabre	2. Ant
4. Pig	3. Rod
7. Let	4. Pattern
9. Dot	5. Glee
10. Tree	6. Attract
12. Elves	8. Eels
14. Saga	11. Test
15. Roe	13. Sack
17. Etc.	16. End
18. Kit	17. Ear
19. Adorn